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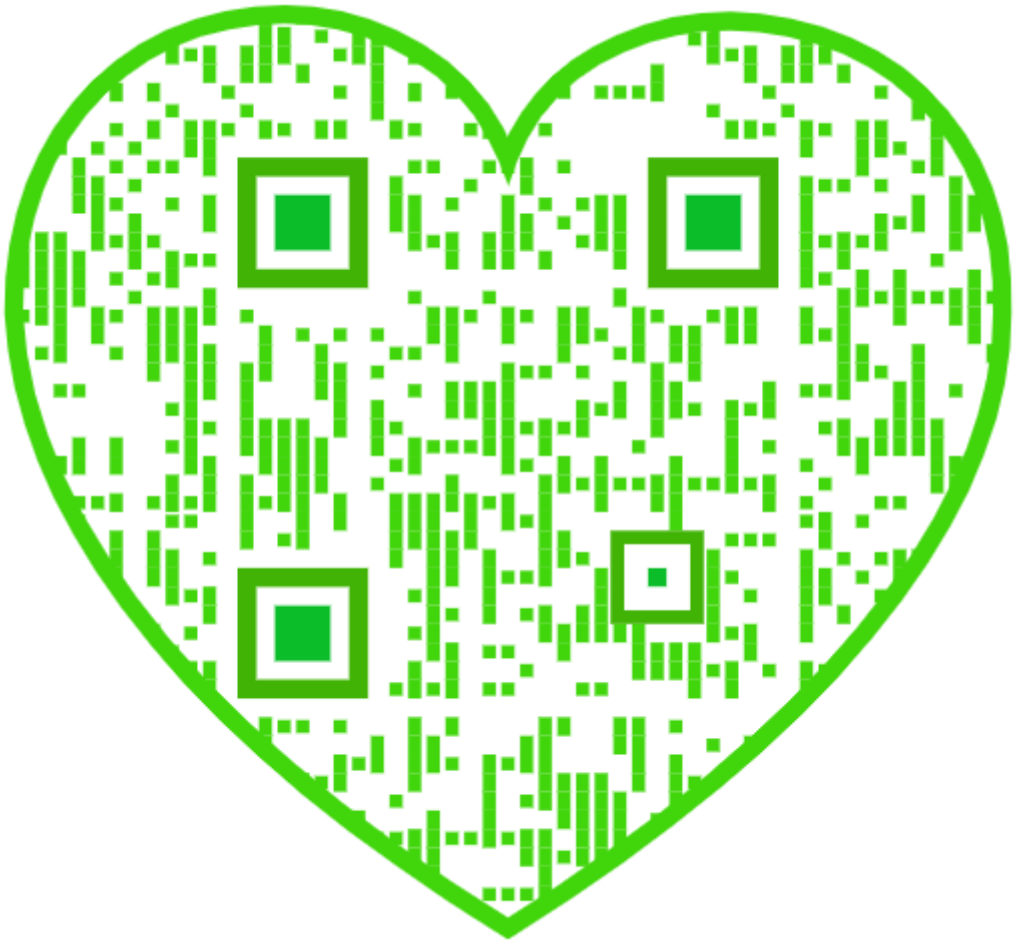

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THE

British Bee Journal

AND BEE-KEEPERS' ADVISER.

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THOMAS WM. COWAN, F.G.S., F.L.S., F.R.M.S., &c.,

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RETROSPECTIVE AND PROSPECTIVE.

We are once again on the threshold of a New Year, and the beginning of a new volume—the forty-fifth. To all our readers we extend our heartiest good wishes for the coming season. We most sincerely hope that before the year 1917 is left behind, peace will once more reign. Signs that this may be so are not wanting.

The past season has been an abnormal one. Not for years has the honey flow been so late, or the white clover bloom so abundant. Swarms have been plentiful, even so late in the year as August. The old rhyme tells us that "A swarm in July is not worth a fly." What, then, would be the relative value of a swarm in August? The old idea of the value of swarms as expressed in that old doggerel verse could not be applied in 1916, for most July swarms proved their worth and built up into strong colonies capable of wintering successfully, many of them giving their owners some surplus honey as well. We are afraid, however, that many of those coming late in July and early in August will not have accumulated stores enough to be safe for winter without a little help.

The heather harvest has, from all accounts, been a failure. The weather "broke" at the close of the second week in August, just when nectar gathering from the heather should have been in full swing, and the poor bees never had a chance.

The great reaper has again taken his full toll. Numbers of our readers, from those well known to the craft to others whose names are little known outside their own immediate circle, have lost those very dear to them, many a one filling a soldier's grave in one of the many battlefields of this terrible war. Others have dropped off in the course of nature after a long and useful life, and we have lost valued personal friends in the Rev. F. S. F. Jannings, Dr. W. Anderton and Mr. G. Roberts. To all those who have been bereaved we tender our heartfelt sympathy.

To all our subscribers and correspondents and those who have supported us in any way during the past year we give our hearty thanks. Always having had every confidence in the support of our readers, we are pleased to say it has not been misplaced, and our position at the present is better even than we expected, and we think we are justified, *after* a trying and anxious time for over two years, in saying that we are still going strong and steady.

With regard to the supply of sugar granted for making bee candy, we hoped that it would have been available by now. We understood from the reply of Capt. Bathurst, M.P., to Sir Walter Essex, M.P., as reported in our last issue, that Messrs. Pascall would be able to supply "persons in the trade or private individuals," but in an interview our manager had a few days ago with an official of the Board of Agriculture, he was informed that the method of distribution has not yet been decided upon; when it is, a notice will be published in the BRITISH BEE JOURNAL.

Several bee-keepers have written to us asking for a supply of the sugar. It must be distinctly understood that PLAIN SUGAR OR SYRUP WILL NOT BE SUPPLIED; when the latter is needed it must be made from the candy. The material used for "doctoring" the candy so that it will not be fit for domestic use is for that purpose only, and is not calculated to be a remedy for diseases.

A DORSET YARN.

In the little Dorset village of Bourton, (just off the main road of Wareham and Weymouth) with its low-thatched houses, said to be unhealthy, but where the old people live to nearly a century, some of them never leaving the village from their entry into it to the close of their lives, when they are laid in the little cemetery round the village church.

An old character (one of Nature's noblemen) has just gone to his last rest; all that he left behind was offered for sale in the village street. One of his cows is now at the Violet Farm, four of his stocks of bees are also mine, but I have not got them home yet. A very large amount of honey was sold in all sorts of supers, small skeps full of "maiden" honey; there was one sugar box with 70 lbs. of honey.

It was good to see the old Dorset veteran, Mr. Tilly, of Dorchester, who has lectured most of Dorset. Many a novice has been helped by his teaching; he bought the remainder of the bees; he will take them with others on his fruit farm at Dorchester; he knows their value for the fertilisation of his apples and pears.

Shakespeare wrote that the evil that men do lives after them, but the good is oft interred with their bones, but this old bee-man never thought anything evil, but he always had a drink of home-made wine, a glass of cider or mead, all of his own

making; he always had a fine brew of mead; those who liked it spoke of its healthy nature, and while the old man milked the cows the visitors always finished the brown pitcher of mead.

This neighbourhood seems to have escaped the scourge that cleared off East Dorset bees; these all seem to be the old English blacks; there are quite a large number of box hives in one of the fields by the side of the railway. Let us hope that the worst is past and we can once more build up our stock, and the honey industry will once more be in a flourishing condition.—J. J. KETTLE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

ENCLOSING STAMPS WITH QUERIES.

[9392]—By your kind permission I should like to say a few words respecting my article *re* mead making in the BRITISH BEE JOURNAL of November 30, p. 376 (9375). Now I have had several inquiries for further particulars about mead making, and I think you will agree with me that it is only right and just that anyone seeking further information respecting any article written in the BRITISH BEE JOURNAL, or any other paper, should enclose a prepared envelope or one penny stamp for reply. In two cases I have received postcards. I don't think that this is right when one has given the information gratis. What puzzles me is this: Some people call themselves bee-keepers and readers of the BRITISH BEE JOURNAL, and yet they only just get a few copies during the summer months, and when the most interesting reading and general knowledge about bees can be learnt they lay both the BRITISH BEE JOURNAL and themselves on one side for the winter. Bee-keepers like these I call one of the tribes of the seven sleepers, because they only wake up when the sun shines. Now I have been a subscriber to the BRITISH BEE JOURNAL for over thirty years, and I look every week for the Journal as anxiously as ever, and I find at this dead time of the year for our bees we, as managers of them, should be awake.

I have been much interested of late by your correspondents *re* the "Isle of Wight" disease, but I cannot say much on the subject as I am thankful to say I have had little or no practical experience with it, but I can say a little about foul brood. I have seen of late correspondence relating to "immune bees," but whether there are such bees I am unable to say. But here I quote a case. Five years ago this next summer I had a very bad case of foul brood break out at an apiary which is under my management. I tried all the advertised treatments without any effect, and the bees died during the winter. On my visit to this apiary in the spring I found the bees dead; the centre combs were all wet and sticky, so I removed the quilt and spaced the combs, placing some on the top of the others, and then closed up the hive as I had not time to do anything with them that day. I could not get to visit them again for some time; when I did go, to my surprise, another swarm had entered the hive, and they had built combs all ways. I cut out the brace combs and then placed all the other combs, and I thought I was in for a bit of foul brood practice. This hive of bees is living to-day, and is strong and healthy; this year they threw out a good swarm in May, and filled a set of shallow combs with honey, and I have never seen any trace of the disease. How can this be accounted for? In fact, it puzzles me. Now I am afraid that I have trespassed too far, as I know the space in our little JOURNAL is limited, but by your permission, Mr. Editor, I would like to say there is very great need at this present time for bee-keeping, for honey can be utilised in many ways for food at this critical time when sugar is so dear and difficult to obtain.—E. J. THOMPSON.

Apiary House, Gowdall, Snaith, Yorkshire.

[We cordially agree with our correspondent. If any person writes to another for free information by post, the very least he can do is to enclose a stamped addressed envelope. This is better than a stamp, as it is often a difficult matter to decipher the name and address given in a letter.

The best method of dealing with this matter is not to answer any query unless a postage stamp for the purpose is enclosed, but simply to put the letter in the waste paper basket—we have a very capacious one in our office.—EDS.]

NOTICE.

We shall be greatly obliged if our readers, when their subscriptions expire, will let us know as soon as possible if they wish to continue to take in the paper. We hope they will all do so, and, if possible, recommend the JOURNAL to other bee-keepers, and thus help to secure new subscribers. Subscriptions should be sent in advance. To prevent disappointment orders should be sent at once, as in the present state of the paper market we cannot afford to print papers to sell as waste, and, in addition to that, we feel that any waste, however small and in whatever direction is at this time unpatriotic. We are, therefore, only printing a very small margin over actual orders, and back numbers will soon be out of print. Failing any order of renewal the paper will be discontinued.

A subscription form will be found on page 4.

Will all those, also, who are in arrears with their subscriptions kindly send the cash along as soon as possible, and thus save us the time and expense of continually sending out small accounts.

Owing to this number containing the Title and Index for 1916, several articles and Notices to Correspondents that are in type are held over till next week.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1*d. per word as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3*s. per* ½*in., or* 5*s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FEW dozen nominal screw cap clover honey, 12s.; heather, 14s. dozen. — EDWIN GLOSSOP, Ambergate. v 5

WANTED, LADY, as paying guest and companion; own house, two acres fruit and grass, most suitable for bee-keeping and poultry farming.—MRS. BROWN, Holmcroft, Melbourn, Royston. v 1

WANTED, drawn-out wired brood and shallow frames, also geared extractor; write fully.—THURLBY, 82, Grosvenor-avenue, Wallington. v 2

1½ CWT. light English honey, in 56lb. tins, £5 per cwt., f.o.r.—C. SPRATT, Meadow Farm, Wetheringsett, Stowmarket, Suffolk. v 3

SIX W.B.C. hanging section racks, nearly new, lot £1 2s 6d.—SEALE, Hardumont, Oatlands Drive, Weybridge. v 4

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SIX W.B.C. hanging frame section boxes, with dividers, 4s. each; unused, soiled, 4s. each; 100 ordinary pattern section racks, 1s. 3d. each; twenty shallow frame boxes, 1s. 6d. each.—"X. Y. Z.," "BEE JOURNAL" Office, 23, Bedford-street, W.C.

FOR SALE, by W. HERROD-HEMPSALL, Old Bedford-road, Luton, Ariel 3½ h.p. Motor Cycle and Side Car, in perfect condition; any trial or expert examination allowed; spares, belt, in leather case, two tubes, one cover, valve spring, back axle; all wheels fitted with Peter Union bands, back to saddle, horn, speedometer, three acetylene lamps, special luggage carrier on side car to carry two gallon can of petrol and one quart oil can, in addition to luggage, kick start, three speeds. Ridden by above, to be sold on account of medical advice; offers.

FOR SALE, or exchange, young Liver and White Spaniel dog, well trained, and good worker, good to children; owner going to the Front, and obliged to part with dog.—Apply, MR. A. BEACHEN, 2, Bottle-lane, Mansfield, Notts. v 5

BEES.—Wanted to purchase, stocks, on standard frames.—Send full particulars to W. H. SIMS, 9, Cole Bank-road, Hall Green, Birmingham.

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

COLONIAL HONEY.—LEONARD HALL & CO., 6, Rood-lane, London, E.C., Honey Importers and Packers for H.M. War Dept., the leading Stores, &c.

SAVE MONEY this winter by making up your own hives. Particulars of wood cut ready to make up into hives will be sent free on receipt of a post card.

E. J. BURTT, Manufacturer, GLOUCESTER.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., July 22, 1915.

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"I had lost twenty stocks when I tried Izal with my remaining three stocks which were very badly affected . . . The bees are now in very good condition, due solely to the use of this disinfectant."

Sold Everywhere in Bottles, 6d. and 1/- each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

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BRITISH BEE JOURNAL.

ESTABLISHED 1873.

THE NEW VOLUME COMMENCES JANUARY 4th.

THE BRITISH BEE JOURNAL is supplied direct from the Office every week, post free for One Year, 6s. 6d.; Half Year, 3s. 3d. (payable in advance). Posted on Wednesday evening in time for delivery on Thursday.

Money Orders and Cheques should be made payable to W. Herrod-Hempsall and crossed "London County and Westminster Bank."

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Please send me "THE BRITISH BEE JOURNAL" *for*_____

*Commencing*_____ 191_____ *for which I enclose*

_____ **Name*_____

*Address*_____

*Date*_____

*Please state whether Mr., Mrs., or Miss, etc.

It will considerably facilitate our publishing arrangements if subscriptions are dated from the beginning of each year; the proprietor will therefore be obliged if subscribers will fill up and return the above form as early as possible.

COVERS FOR BINDING

"BRITISH BEE JOURNAL" or "BEE-KEEPERS' RECORD," 1/- post free.

British Bee Journal Office, 23, Bedford St., Strand, London, W.C.

NOTICE.

We shall be greatly obliged if our readers, when their subscriptions expire, will let us know as soon as possible if they wish to continue to take in the paper. We hope they will all do so, and, if possible, recommend the JOURNAL to other bee-keepers, and thus help to secure new subscribers. A number of subscriptions have now expired, for which no renewal has been received. Where that is the case the outside wrapper has TWO BLUE PENCIL MARKS across it, and we respectfully notify those subscribers that no further JOURNALS will be sent until an order is received, and to prevent disappointment the order should be sent at once, as in the present state of the paper market we cannot afford to print papers to sell as waste, and, in addition to that, we feel that any waste, however small and in whatever direction is at this time unpatriotic. We are, therefore, only printing a very small margin over actual orders, and back numbers will soon be out of print.

A subscription form will be found on page 12.

Will all those, also, who are in arrears with their subscriptions kindly send the cash along as soon as possible, and thus save us the time and expense of continually sending out small accounts.

BRITISH BEE-KEEPERS' ASSOCIATION.

MONTHLY MEETING OF COUNCIL.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C., on Thursday, December 21, 1916. Mr. W. F. Reid presided. There were also present Messrs. G. F. Faunch, J. Smallwood, G. Bryden, G. R. Alder, G. J. Flashman, J. B. Lamb, G. W. Judge, J. Herrod-Hempsall, and the Secretary, W. Herrod-Hempsall.

Letters expressing regret at inability to attend were read from Miss M. D. Sillar, Messrs. T. W. Cowan, C. L. M. Eales, H. Jonas, A. G. Pugh and A. Richards.

The minutes of Council meeting held on November 16, 1916, were read and confirmed.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank for November amounted to £30 7s 8d., the bank balance at the end of November being £147 1s 11d. Payments amounting to £76 14s. 6d. were recommended.

Mr. Reid presented the report of the Examining Board on the lecture test for the Final Examination held earlier in the day, and it was resolved to grant the certificate to Mr. W. E. Moss.

The report on the Intermediate Examination was presented, and it was resolved to grant certificates to Miss G. M. Darrington, Messrs. W. H. Simms, F. C. Hodgson, A. A. E. Tucker and A. Kimpton.

Next meeting of Council, January 18, 1917, at 23, Bedford Street, Strand, London, W.C.

A DORSET YARN.

While driving through the "highways and by-ways" of Dorset in mid-winter, Dorset is seen at its worst, yet in the parts of it where the Bagshot sands run to an acute angle between the rich dairy lands on the right and the undulating lands on the left by the sea, with its rugged cliffs, and its rocks and caves, which make our coasts so famous, the Nature lover can see plenty to interest him, plenty of wild beauty in the brown moorland and irregular splashes of brake fern, the deep green foliage of rhododendron between the pines of Sandford and Wareham; the long road between Wareham and Bere Regis, miles with scarcely a cottage, the moorland covered with the characteristic vegetation, brown heather (mostly ling), coarse sedge grasses and bracken.

From Wareham, with its surrounding earth-mounds, which are called "the walls of Wareham," to Earl Stoke, following the Weymouth road, the vegetation is all of the same character—the swollen stream makes the valley look one vast lake. Beyond this the wood of Creech Grange, the home of the Bond family, sheltered from rough winds, makes it a warm place to live in winter. The drive through Home Priory, beneath the great trees, is very beautiful. Here is the ideal place for bees, plenty of withy copses, holly trees in abundance, giving early food, and then the acres of white clover to follow on, till the purple heather-clad moors give their sweetness to the little creatures who work "without money and without price." Just round this neighbourhood the bee-men have had a good time this last season. One of them assured me a July swarm made 40lbs. of honey in a wooden box in three weeks; you can see the hives in the cottagers' gardens close by the woods of the salix or withy family.

I carried home the four stocks I bought at Bourton, and was privileged to have one of my soldier-sons with me, who had

Christmas leave from the battlefields of the Somme. You will be glad with me that he is safe so far, though this terrible campaign since August, 1914, is slowly killing him. He says in France the land is wonderfully productive, very different to the miles of waste which we drove through. There you will see artillery camped in the fields of vines, fruit trees, all levelled by the high explosives, but behind the lines the women are ploughing and sowing the fields for another season's harvest. There are none, or few, of the idle rich of both sexes as we have here in our pleasure resorts; all are employed in agriculture or munitions, all are producers, all; like the bees, work for the community.

The four stocks were tied up in the cloths for weeks before I could safely house them in wooden hives; they were very strong in numbers, and being plenty of sunshine they made the Violet Farm really hum for a few hours.—J. J. KETTLE.

EXPERIMENTS WITH "ISLE OF WIGHT" DISEASE.

By J. Price.

(Continued from page 390, Vol. XLIV.)

At the end of October I gave the readers of the BRITISH BEE JOURNAL the result of an experiment that I had tried on five lots of bees which had been placed on infected combs four months previously.

I will now give further observations of experiments on the same five stocks of bees.

Having satisfied myself on the first part of the experiment, already recorded, and as I assumed that the disease might now at any time show itself on some of the lots, the advent of Bacterol as a remedy decided me to give this a trial with a view to finding if it would act in preventing the disease from developing, or test what prospects there were for hoping that it would arrest the winter mortality of bees which were likely to be already infected.

Accordingly I placed on each hive a pint of syrup containing a teaspoonful of Bacterol. Having in August brought a sixth lot from the North, which required a considerable amount of feeding, I decided to use this lot for the purpose of testing whether it was likely that an overdose would cause any unpleasantness to bees that were compelled to winter on medicated stores. I am pleased to say that this lot is quite all right up to the present and apparently they have taken no harm, although they took down at least ten teaspoonfuls of Bacterol in syrup by the end of October. Therefore I have come to the conclusion that a stock that is regularly fed at the rate of one teaspoonful to the pint of syrup is not likely to take any harm from it. The other five stocks, Nos. 1, 2, 4 and 5, took their allowance of one pint each quite readily, but No. 3 absolutely refused to take any, probably on account of the season being late, or that their combs were already filled with natural stores, so eventually their allowance was given to the others. This finished the course of treatment, and as I am carrying out these tests for the benefit of beekeepers generally, as well as to verify my own ideas, I made observations on all days when the bees were flying, and herewith give them to my readers, who can make their own calculations therefrom. A fortnight after feeding had been finished No. 1 looked very suspicious, and on October 26 a considerable number of bees were squatted on the alighting board, constantly rubbing their abdomens as if in pain, or wishing to remove something from them.

November 2 proved these suspicions to be correct, for there were seven or eight crawlers on the ground; after a time these took flight and entered the hive. Two days later more crawlers were down, and I fed these with medicated syrup from the tip of my finger; they took it readily, and after a while returned to the hive.

November 7.—All the lots were flying strongly, and carrying pollen; no crawlers. Next day, all still flying strongly. On November 11, however, there were a score or more crawlers at No. 1, and on this date another hive (No. 3, the lot that refused to take its medicine) showed the disease for the first time, and lost more than a hundred crawling bees which did not go back. Next day this same hive lost at least 200; while No. 1 showed several sick bees, which returned to the hive. Other stocks were busy carrying pollen.

November 22.—After a week of confinement by bad weather, bees flying well, only four crawlers at No. 1; no activity at No. 3.

December 8.—A few stragglers at No. 1, not more than two lost. Bees flying well, but still no life at No. 3.

December 28 and 29 were mild days after a very trying period of wretched weather. Bees flying well at all of them except No. 3, which lost at least a thousand sick bees that had crawled out to die.

From this it will be seen that two of the hives have developed the disease. As to whether No. 3, which I am afraid will go under, is paying the penalty for refusing to take its dose, or whether the disease is being kept in abeyance in Nos. 1, 2, 4 and 5, through the agency of Bacterol, I am at present not inclined to give a decisive answer.

I have seen so much of the vagaries of "Isle of Wight" disease that I refrain from making hasty statements, and it is

quite likely that things might have been just the same had nothing been done to them.

I leave it for the present to the judgment of my readers. In the meantime I shall continue to make careful observations, and shall be pleased, as time goes on, to record all happenings in the JOURNAL.

I think two things can be gleaned so far. One is that an overdose will do no harm, and another that there is nothing in Bacterol that the bees object to, or that is detrimental to the production of honey.

These, all will admit, are certainly good features, and I am hoping that a prolonged treatment with this article will give good results, and so place bee-keeping once more in a prosperous condition.

KENT BEE-KEEPERS' ASSOCIATION.

LECTURE AT DARTFORD.

A very useful lecture and demonstration was given by Mr. C. F. Gee, of Dover, at the Dartford Public Library, on Saturday, December 16. Although the attendance was not so large as usual, due to unpropitious weather and the difficulty of travelling, the meeting lacked nothing of that enthusiasm which is so characteristic of bee-keepers. Among those present were Mr. G. Bryden (Chairman), Rochester, Mr. Chapelow (the Hon. Secretary of the new branch at Wye), Mr. and Mrs. Paulin, Miss Smiles, Mr. J. Hunt (Greenwich), and Mr. G. W. Judge (Hon. Secretary).

The subject of the lecture was "Hive Construction," and in discussing the question of materials, the lecturer did not consider it good policy to use wood from old boxes, as the material was inferior, and could not resist the weather conditions imposed by the climate of this country. His experience had proved that it was possible for bee-keepers to make their own hives at approximately half the cost of new ones from the dealers. He recommended the W.B.C. hive as the best pattern at present designed, and although this was the most expensive it possessed many advantages over the fixed brood chamber type.

Among some of the constructional points of interest introduced was the employment of a tongue and groove joint instead of the usual butt-joint adopted by the amateur woodworker, and although this appeared a formidable task, yet, in reality, it could be made quickly and satisfactorily by any novice. When completed it was impossible for the joint to warp or twist.

A new method of fixing the plinths to the various "lifts" was shown. In cross-section these plinths were triangular and fitted into rebates cut into both the upper and lower lifts. This construction was designed to prevent water soaking between the plinths and hive sides, which had a very destructive effect.

Mr. Gee, like so many other experienced bee-keepers, expressed willingness to render assistance to any member in need of it. He presented to the Association the hive used for demonstration purposes, for the use of members who desired to copy it. To avoid a complicated list of measurements of the various component parts he prepared a set of templets, each one of which would be numbered, and its use fully described. Members wishing to obtain them on loan could do so at any time by making application to the secretary.

Needless to say the lecturer was heartily thanked both for the valuable hints and advice he had given in his address, and for the gift of the pattern hive, which could not fail to be of very great assistance to those who are in a position to make their own hives and fittings.

REORGANISATION.

Respecting the question of reorganisation which involved the amalgamation of the Bee-keeping Associations in the county much progress has recently been made. The proposals initiated by the late Crayford Association received the approval and support of all concerned. Only the previous week at a meeting of bee-keepers held at the South-Eastern Agricultural College at Wye it was unanimously decided to form a branch there to represent the Eastern Division of the County. Kent, the "Garden of England," will thus be represented by three divisions of the Association, whose function will be to administer to the needs of bee-keepers in their respective areas. These branches will be controlled by a county executive composed of delegates from each.

It is believed that the arrangements, now so happily completed, will ultimately be the means of greatly stimulating the culture of bees in this country. The nation's food supply is one of the important questions of the hour, and there is no doubt that the production of home-grown produce has got to be increased. Bee-keepers must do their share, and make every effort to produce greater quantities of honey, and provide the bees which are so necessary for the proper fertilisation of fruit and other blossoms to ensure adequate crops. It must not be forgotten that in honey we possess a sugar of the highest quality, thousands of tons of which is allowed to go to waste in the fields annually for want of organisation, education and suitable encouragement.

Is it not time this state of affairs was remedied?—GEORGE W. JUDGE, Hon. Secretary, Barrowdene, Shepherd's Lane, Dartford.

SOUTH STAFFS AND DISTRICT BEE-KEEPERS' ASSOCIATION.

On December 9 a most successful meeting of the above association was held at the Temperance Hall, Dudley. The chief item consisted of a lantern lecture on "Bee-keeping for the Black Country," by the Hon. Secretary, Mr. Joseph Price, of Old Hill.

Over fifty were in attendance, and Mr. C. C. Thompson occupied the chair.

Mr. Price, in his opening remarks, told his audience that his intention was to show them by means of pictures that in the so-called "Black Country" bee-keeping could and had been successfully carried on by those who were adapted for this special art.

The slides, on various manipulations, were splendid lessons to novices, and useful to old hands, showing them the many points that are usually neglected. The pictures on bee flora, most of which were found in profusion in South Staffordshire, were remarkably good, and created considerable interest.

The usual vote of thanks was accorded to Mr. Price for his excellent lecture, after which Mrs. Thompson presented the Preliminary Certificates which had been gained by Messrs. Cheshire, of Coseley, W. Heldreth, of Smethwick, and E. H. Hopkins, of Tipton.

The meeting showed their appreciation of these successful candidates by applause.

After light refreshments had been partaken of the meeting closed, it having been a most pleasant winter gathering, which, it is hoped, will stimulate members to increase their efforts on behalf of the association. — A. CHESHIRE, Assistant Secretary.

ONTARIO BEE-KEEPERS' CONVENTION, 1916.

The annual Convention of the Ontario Bee-keepers' Association was held at Hotel Carls-Rite, Toronto, on December 12, 13 and 14. The attendance was good at every session. The remarks of Mr. C. P. Dadant, the most prominent outside speaker, were very interesting and valuable. Such subjects as swarm prevention, production of extracted honey in several apiaries under one management and wintering, were followed by good discussions. The crop of honey gathered this past season has been extremely heavy, and although the markets were well supplied for a short time, there is a scarcity at present.

The next event of interest to bee-keepers is the Short Course in Bee-keeping at the Ontario Agricultural College, Guelph. The need of more practical work at a winter course has necessitated adding another week to it, and the course will start January 9 and conclude on the 27th. A very attractive programme has been arranged, and is at present in the hands of the printer. People wishing a copy should write Mr. Morley Pettit, Provincial Apiarist, O.A. College, Guelph, Ontario.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

"ISLE OF WIGHT" DISEASE. DRUGS AND LEGISLATION.

[9393] I, too, have been much interested in the discussion that has been carried on in the columns of the BRITISH BEE JOURNAL as to whether the dread "Isle of Wight" disease is curable by drugs or not.

But I think Mr. Pratt's letter, (9384, p. 386, December 7, 1916), is of more practical value at the present time than any on drug "cures" can be. As Mr. Pratt says, whether the disease is curable or not, we still require legislation in order to deal effectively with the scourge.

Unless, however, his suggestion is acted upon—and that immediately—legislation dealing effectively with the matter, which must come at some time, may come too late to be of practical value.

I therefore suggest that the Editors of this valuable JOURNAL, or other recognised authorities on bee-keeping, draw up a resolution, to be signed by as many bee-keepers, all over the country, as possible, demanding instant steps to be taken by the Government, immediately on the cessation of hostilities, to make the keeping of infected hives, combs and other articles used in a diseased apiary, illegal.

Workers to visit their neighbouring bee-keepers with a copy of the resolution, with a view to getting them to sign it.

Funds to pay the necessary expenses

in connection with the scheme could be appealed for through the BRITISH BEE JOURNAL. I am sure that an appeal for such a deserving object would not be in vain.

Considering the fact that an increased honey production next harvest may prove to be a national asset of the greatest importance during next winter, do you not think that if a well-signed resolution on the lines I have indicated were brought before the proper authorities, an emergency legislation might be brought forward at the present time even, under the Defence of the Realm Act, to deal effectively with the plague?

Like Mr. Pratt, I will be glad to render every assistance in my power.—WM. A. CATTANACH.

[Our views on legislation are well known, and we are giving the matter our serious attention, but no line of action has been definitely decided upon. We shall be pleased to receive and consider any suggestions put forward by our readers.—EDS.]

BEE-KEEPING AND LEGISLATION.

[9394] The sentiments expressed by your correspondent, Mr. A. H. Hamshar, in his remarks "Backward or Onward!" (page 399, B.B.J., December 21, 1916), must have found an echo in the heart of many a reader. A large number of our bee-keepers have had to lay aside the implements of their craft, and, in response to the country's call, to take up the implements of warfare, temporarily at the least, in their stead. Some day they hope to return to their peaceful avocation. On many who are left behind a cloud of depression would seem to have settled consequent upon the loss of relatives and friends, preventing them from enjoying their "labours of love" in the apiary with the same avidity and enjoyment as heretofore. In common with the affairs of practically the whole country, both industrially and economically, bee-keeping would appear to be in the melting pot, to emerge, we hope, purified of much old-time dross. Already we see and hear signs of the awakening sense of the nation to the importance of the production at home of the maximum amount of the nation's food, and an acute sense of our present great dependence upon other countries for our supplies of sugar, so essential to the child life of the nation. Connected with the effort to replace our soldiers into the ranks of industry at the end of the war an attempt is to be made to induce many of these to settle upon the land, and to wrest from it a livelihood. To such, bee-keeping, in conjunction with its kindred occupations, should offer no little inducement. At the present time, however, a serious obstacle raises itself against such a course, in the shape of the prevalence of virulent disease, notably the "Isle of Wight" disease. As a case in point, the Government own a tract of 1,000 acres of reclaimed land on the north bank of the estuary of the Humber, known as Sunk Island. Already the tenant-farmers have received notices to quit, and the whole of the tract is to be divided into allotments of about 40 acres each for the employment of returned soldiers. The contiguous district of Holderness is to a considerable extent given up to the rearing of sheep, for which purpose large tracts of land are laid down annually to *Trifolium repens*. This plant also abounds naturally in the permanent pastures, so much so that in early July these pastures are almost white over with the blossoms. The reclaimed land is also admirably suited for growing the mustard plant. I would personally be prepared to offer my services to the occupants of these holdings, as far as time would allow, in the way of instructing them in the practice of bee-keeping, but the query which arises in my mind is, Would it be worth the time and outlay on the part of these men to take up this occupation whilst disease exists in the neighbourhood unrestricted, except for the efforts of a very few earnest bee-keepers, aided by remedies which are as yet somewhat doubtful in results? I am afraid any attempts made would ultimately result in failure and disappointment. When they commence bee-keeping they must do so on a sound basis, so that they may build upon it. The men are worthy of our time and assistance; they are worthy also of success. What is absolutely essential to the last, not only for these new beginners, but for the craft in general all over the country, is *Government action and control of the disease and its causes*, so that it may be stamped out. Last week a case of "foot-and-mouth" disease was reported in this county. Instantly the machinery of the Board of Agriculture was set in motion to circumscribe and eradicate it. If this can be done with cattle why not with bees? The results of the labours of the occupants of our apiaries are prodigious, and valuable to the nation. Given a fair chance they will add their quota towards paying off the cost of the war. Food problems are amongst the most pressing of the problems of the nation at the present time, and will continue to be so. The honey-bee provides us with a pure and most valuable food, the supply of which might be increased considerably. Bee-keepers all over the country should impress upon the Government in all possible ways the need of instant legislation insisting upon notification and eradication of existing disease, and cleanly methods of bee-

keeping. Then could we and the returning members of our craft look forward to the future with hope, and with full confidence could we go to the returned soldiers in the recommendation of bee-keeping as an occupation yielding both profit and pleasure. Truly a new era would open out before us all.—J. W. MASON.

QUERIES AND REPLIES.

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

MEDICATING CANDY.

[9055] On July 11 last you diagnosed that one of my hives had "Isle of Wight" disease, and I immediately killed all the bees. After that I saw no sign of disease. Before closing up my other five hives for the winter I sprayed the bees on every comb with peroxide of hydrogen. On fine days the bees are flying freely from all of the hives, and I see no sign of disease—either crawling bees or excreta on the flight board. The time will come when I must feed. It had been my intention not to confuse remedies by giving any other treatment than peroxide of hydrogen. The dearth of sugar makes matters difficult, but I see from the RECORD that you have been pressing the matter, and in the Parliamentary Reports I see that Pascall & Sons, Ltd., Blackfriars, are authorised to manufacture and sell bee candy, medicated under the advice of the bee experts of the Board of Agriculture. My purpose in troubling you now is to ask if you can tell me with what the candy is to be medicated? If simply with something to prevent it being used for human food I should try to get some, but if with any supposed cure I should try to gather together a little unmedicated sugar to carry my bees through, in order not to be trying two or more supposed cures at the same time.

There is "Isle of Wight" disease on all sides of me now.

I shall be glad to have your advice.—P. MURRAY THOMSON.

REPLY.—The only purpose of medicating the candy is to make it impossible to use it for domestic purposes, and not as a cure for disease. You may, therefore, if you think well, add peroxide of hydrogen or any other medicament to the candy.

WEATHER REPORT FOR DECEMBER, 1916.

Rainfall, 3.99in.
Above average, .42in.
Heaviest fall, .87, on 20th.
Rain fell on 18 days.
Sunshine, 29.0 hrs.
Below average, 23.1 hrs.
Brightest day, 4th, 4.5 hrs.
Sunless days, 11.
Maximum temperature, 53, on 29th to 31st.
Minimum temperature, 25, on 16th.
Minimum on grass, 18, on 16th and 17th.
Frosty nights, 19.
Mean maximum, 42.3.
Mean minimum, 31.9.
Mean temperature, 37.1.
Below average, 2.8.
Maximum barometer, 30.207 on 28th.
Minimum barometer, 28.794, on 21st.

L. B. BIRKETT.

WEATHER REPORT FOR THE YEAR 1916.

Rainfall, 33.12in.
Above average, 2.43in.
Heaviest fall, .90, on March 27.
Rain fell on 203 days, av. 179.
Sunshine, 1,528.6 hrs.
Below average, 291.8 hrs.
Brightest day, May 26, 14.9 hrs.
Sunless days, 68, av. 61.
Maximum temperature, 80, on July 31.
Minimum temperature, 23, on February 25.
Minimum on grass, 17, on Nov. 28
Frosty nights, 57, av. 72.
Mean temperature, 49.1.
Above average, .4.
Maximum barometer, 30.538, on Jan. 31.
Minimum barometer, 28.512, on Nov. 18.

L. B. BIRKETT.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

"ROSE" (Kent).—*Reducing Number of Combs.*—Probably the bees will not cover 10 combs in March, and it is better to reduce the number to those covered by the bees, placing those not needed behind the division board, giving them back to the bees as they require more room.

NOVICE (Sheffield).—*What Surplus to Expect from a Swarm the First Year.*—It is safest not to count on any surplus at all. In an average season it is well to be satisfied if the bees build the combs and store enough honey for their own use during the winter. *If* the swarm is early and a good one, *if* the weather is right, and *if* there is plenty of forage a swarm may give 40lb. or 50lb. of surplus honey. Half a gross of bottles would be sufficient.

How Long to Feed a Swarm.—This depends on the weather and amount of forage. If conditions are favourable feed for a week; if they are not, feed until the bees are able to go out and find plenty of food. One, or one and a half pounds of sugar would be sufficient for a week. Use a *bottle* feeder, giving three or four holes. Yes, they will store it if fed too rapidly. A honey ripener is a plain vessel; it usually has a strainer at the top, and is in reality a container into which the honey is strained from the extractor to be afterwards run into tins or bottles. Honey is ripe when sealed, and is not now extracted before it is sealed, and therefore does not need "ripening" artificially. Comb honey is usually eaten with bread and butter and the wax with it. There is very little wax in the cell walls. If the midrib is thick it may be left on the plate.

C. F. H. (Yately).—*Bees Fighting.*—The bees that were being killed were probably robbers.

Suspected Disease.

J. PALMER (Sussex).—The brood was only chilled. Thanks for good wishes, which we reciprocate.

E. B. (Broadwaters).—The bees sent were affected with "Isle of Wight" disease. Sprinkle quicklime on the ground near the hives and burn all dead bees you can.

NEMO (Larbert).—The cause of death was "Isle of Wight" disease. Do *not* use the combs or stores for other bees.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per word as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ½*in., or* 5s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

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Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FOUR Plymouth Rock Pullets, laying, two winners, 10s. each; valuable old violin, grand tone; exchange extracted honey or sections.—WILLEY, Gilmorton, Lutterworth. v 8

WANTED, Extractor, Cowan Reversible preferred. Approval.—L. ILLINGWORTH, Winton Lodge, Shirley, Southampton. v 7

WANTED, LADY, as paying guest and companion; own house, two acres fruit and grass, most suitable for bee-keeping and poultry farming.—MRS. BROWN, Holmcroft, Melbourn, Royston. v 1

WANTED, drawn-out wired brood and shallow frames, also geared extractor; write fully.—THURLBY, 82, Grosvenor-avenue, Wallington. v 2

SIX W.B.C. hanging section racks, nearly new, lot £1 2s 6d.—SEALE, Hardumont, Oatlands Drive, Weybridge. v 4

FOR SALE, in London, S.W., owing to death of owner, four healthy stocks of bees, in telescopic hives; four section racks and dividers; twenty-one sections, in the flat; one bottle feeder; two rapid feeders; smoker; two veils; two queen excluders; about ¾lb. foundation; brood and super; "Guide Book," Coronation edition; suit beginner; £7 10s., or near offer; deposit; particulars.—Box B., "BRITISH BEE JOURNAL" Office, 23, Bedford-street, Strand, W.C.

SIX W.B.C. hanging frame section boxes, with dividers, unused, soiled, 4s. each; 100 ordinary pattern section racks, 1s. 3d. each; twenty shallow frame boxes 1s. 6d. each.—"X. Y. Z.," "BEE JOURNAL" Office, 23, Bedford-street, W.C.

FOR SALE, by W. HERROD-HEMPSALL, Old Bedford-road, Luton, Ariel 3½ h.p. Motor Cycle and Side Car, in perfect condition; any trial or expert examination allowed; spares, belt, in leather case, two tubes, one cover, valve spring, back axle; all wheels fitted with Peter Union bands, back to saddle, horn, speedometer, three acetylene lamps, special luggage carrier on side car to carry two gallon can of petrol and one quart oil can, in addition to luggage, kick start, three speeds. Ridden by above, to be sold on account of medical advice; offers.

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

COLONIAL HONEY.—LEONARD HALL & CO., 6, Rood-lane, London, E.C., Honey Importers and Packers for H.M. War Dept., the leading Stores, &c.

ENGLISH Honey wanted; state quantity and lowest price.—LEONARD HALL & CO., Honey Packers, 6, Rood-lane, London, E.C. v 6

ROWE,

28a, Moy Road, CARDIFF,

SELLS Pure Honeys, Colonial and Californian, &c., carriage paid, tins free; cash. Samples 3d. BUYS Home-produced **Run Honey, Sections, and Beeswax.**

SAVE MONEY this winter by making up your own hives. Particulars of wood cut ready to make up into hives will be sent free on receipt of a post card.

E. J. BURTT, Manufacturer, GLOUCESTER.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., July 22, 1915.

IZAL AND "ISLE OF WIGHT" DISEASE.

"I had lost twenty stocks when I tried Izal with my remaining three stocks which were very badly affected . . . The bees are now in very good condition, due solely to the use of this disinfectant."

Sold Everywhere in Bottles, 6d. and 1/- each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

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BRITISH BEE JOURNAL.

ESTABLISHED 1873.

THE NEW VOLUME COMMENCED JANUARY 4th.

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It will considerably facilitate our publishing arrangements if subscriptions are dated from the beginning of each year; the proprietor will therefore be obliged if subscribers will fill up and return the above form as early as possible.

COVERS FOR BINDING

"BRITISH BEE JOURNAL" or "BEE-KEEPERS' RECORD," 1/- post free.

British Bee Journal Office, 23, Bedford St., Strand, London, W.C.

SOFT CANDY FOR BEES.

Messrs. Jas Pascall, Ltd., of 100, Blackfriars Road, London, S.E., announce that they have now received from the Royal Commission on the Sugar Supplies fifty tons of sugar for the purpose of supplying bee-keepers with candy during the next few weeks.

The candy, which has been stained pink to designate the purpose for which it is to be used, has been medicated with Bacterol, an antiseptic compound, which, while harmless to bees, renders the sugar unfit for human consumption. It can be obtained from Messrs. Pascall at the following prices:—

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Four boxes at eighteen shillings, carriage forward. Cases containing twenty-four boxes can be obtained at slightly lower prices, which will be sent on application.

The money must be sent with the order.

Messrs. Pascall have fixed a price which covers the cost of production with a small margin for contingencies only. Any profit that may be made above this amount will be handed over to any charity that the Board of Agriculture and Fisheries care to name.

The above announcement is "official." We may add that Messrs. Pascall cannot undertake to send a less quantity than 5 lbs. Therefore those needing a less weight will have to club together. Orders should be sent in as soon as possible, as they will be dealt with strictly in rotation of receipt.

The postage on four boxes is 2s. 8d.

NOTICE.

We shall be greatly obliged if our readers, when their subscriptions expire, will let us know as soon as possible if they wish to continue to take in the paper. We hope they will all do so, and, if possible, recommend the JOURNAL to other bee-keepers, and thus help to secure new subscribers. A number of subscriptions have now expired, for which no renewal has been received. Where that is the case the outside wrapper has TWO BLUE PENCIL MARKS across it, and we respectfully notify those subscribers that no further JOURNALS will be sent until an order is received, and to prevent disappointment the order should be sent at once, as in the present state of the paper market we cannot afford to print papers to sell as waste, and, in addition to that, we feel that any waste, however small and in whatever direction is at this time unpatriotic. We are, therefore, only printing a very small margin over actual orders, and back numbers will soon be out of print.

Will all those, also, who are in arrears with their subscriptions kindly send the cash along as soon as possible, and thus save us the time and expense of continually sending out small accounts.

CHAPMAN HONEY PLANT.

Mr. E. Baruch Blaker, Warrilow Apiary, Barnham, Bognor, has recently received some fertile seeds of the above from America. Having more than he requires, he will send some free to anyone sending him a *stamped and addressed envelope*. No letter need accompany application, as Mr. Blaker says he will know what the envelope means, and it will save a great deal of time. The seed should be sown in March and April.

BLURTS FROM A SCRATCHY PEN.

SINS WE ARE COMMITTING.

Half way through January, 1917. Is it too late to wish the stereotyped greetings of the season, when already one twenty-fourth of it has glided by? I very much dislike repeating the parrot phrases one hears at this time of the year a dozen times a day. I suppose they are all meant, but unfortunately the good wishes don't always come off. Shall we in this instance assume they are said, and with all possible sincerity, meant, and then we can get on with other matter we have got to talk about. For instance, notably what we *may* intend to do this year. I emphasise *may*, because we are all of us in the habit, in the infancy of the year, of planning great plans, which, as the year gets older, vanish into very thin air. Well, we know that it is said those unused resolutions are used to pave the road to a very warm place. I should think the supply is greater than the demand, even for such a well-used thoroughfare, for we all are manufacturers.

Theologians tell us that there are sins of omission and commission; that is, we can offend by omitting to do that which we should do, just as readily as by actually doing that which we should not do. Now I would have a word with bee-keepers, as to sins of both these kinds against their vocation. But stay, if I were to go into the subject thoroughly, to examine consciences to the roots, I might have too big an

undertaking. I might have to go into the debatable points of why and wherefore they permit disease, of why they don't attempt to control it, and quite a bristling lot of grave offences, so I think that I had better confine myself to one or two glaring delinquencies which just at this time stand prominent, and leave the others for a future philippic.

We are in the days of the greatest of wars. Are we doing our little bit? Everybody has got to help, and everybody can help if they have the will. All are not able to go to the Front, for a variety of reasons, many of us are incapacitated. Don't grumble at your luck. There is plenty of good work to be done at home to help to win. There is no more naked truth than that an army fights on its stomach, and those who feed the army, either with shot and shell, or provisions, they too have got to be fed. Remembering this, again I ask, have you during the past year done your little bit? We know the all-important work of bees in increasng the food crop, not considering for the moment the food value of honey. Have you thrown all in? Have you done your utmost to increase supply? You who keep bees for amusement, don't you think if you had got up half an hour earlier in the morning, before going to business, you might have managed another colony or two? And you who make a business of honey production, how much more trouble would another five or ten stocks have given you? If you have not done all this, don't you feel guilty of a big sin of omission? The Guildhall speakers tell me that every ounce of energy will have to be exerted, for we have a stern struggle before us in 1917, and our Food Dictator will have to economise and organise every possible production. What is the moral for us? "Keep more bees." Sugar is scarce, and may be still more scarce. It is quite among the possibilities that we may have to fall back on the original and best of sweetenings. So knowing what we are up against, and knowing what we ought to do, and failing to do it, then there will be at our doors a very grievous sin of omission, if we neglect our duty through lack of "go."

I would like to mention another sin which runs in the same harness as that which I have been writing about, because if you have not got the labourers to produce the work you cannot get on at all. Familiarly this sin is known as "The Blues." Because disease has swept our apiaries, are we to burn all our hives and think bee-keeping is done for? Not a bit of it. There is every indication that the epidemic has passed. Pluck up courage, and start again. The County Associations will no doubt see their way to help with advice where healthy colonies may be secured. But why should bee-keeping be different from every other branch of stock raising? When epidemics have swept away cattle or pigs, the farmer does not pull down his sheds and stys, and say he is not going to try again. He cuts his losses, looks around him for where he can get a good start, and plays the game again—a word to the wise is sufficient.

J. Smallwood.

A DORSET YARN.

Yellow gorse and Christmas roses are now in bloom, but the north winds are cold and stinging. No bees can come out to visit them; though the sun is bright by day, it will not tempt them out. Instinct tells them it is death to venture away from the only home they know.

The breaking up of so much pasture will make a great difference to the large fields of white clover. The sowing of such quantities of basic slag has largely increased the growth of Trifolium repens.

The nation is awakening to the fact that the land is not yielding what it ought. To use the words of the late Sir H. Campbell Bannerman, when Prime Minister, "The land must be the storehouse of the nation, not the pleasure ground of the rich." War is a great leveller; all class is forgotten when shoulder to shoulder in this great struggle for the freedom of small nations against the great military power of Prussia.

As a socialist I did my best to keep an officer of the Dorset Yeomanry out of Parliament (on two occasions successfully, though he won the two last elections), yet he wrote his sympathy to me as soon as he knew that one of my soldier sons had "gone west," which is the soldier's term for killed in action. From what I know of the gallant baronet his sympathy was real; may his life he spared to his country (he has led his regiment in the three brilliant victories near Mount Sinai)—but I am getting away from my subject. Fields that would be white with clover are being ploughed up on every hand. I have ploughed up three to plant potatoes and corn. Every piece of land must be utilised for food for the nation. Very few flowers will be grown this season. Between the long lines of gooseberries and currants must be grown succulent vegetables, not flowers. The Army are great buyers of potatoes, onions, carrots, etc. This makes the extended culture of them remunerative. Each tiller of the soil must put his heart into his work this year, as the Army will take more and more from the land to fill the gaps in the fighting regiments. Those who are left to carry on must put

their best effort into their fields, "and the valleys shall be so thick with corn that they laugh and sing." Those of us who live in rural England know this is really true, the sound of the waving corn-stalks rubbing against each other is music to the ear, as is the fiddle-playing grass-hopper rubbing its wings against its rough long legs, the poppies red, the yellow and white marguerites that wave with the winds all show gladness and contentment. All this can only come by honest toil of horse and man. One can never thank old Thomas Carlyle enough for teaching the dignity of labour and the gospel of work. I am not sure my memory is correct, but he wrote something like this, "Produce, produce, if it is an infinitesimal fraction of an atom, the better for yourself and the world in which you live."

I am an optimist with my bees, even though we have had bad times with them. Have made twelve new hives and thirty new section racks. Some of your able writers are asking for Parliamentary legislation to deal with diseased stocks. As a socialist I believe in State ownership and all working for the good of the community; but Government inspectors in horticultural matters, to my mind, are not all a success. In one of my holdings I reported an outbreak of gooseberry mildew to the Board of Agriculture. They sent an inspector down, and then wrote me from London it was so, and wrote the long technical name of the mildew. I knew all that. I did not see the use of sending the inspector down after I wrote and told them it was so.

To add to the absurdity of it they wrote me that I must clip off the ends of shoots by the end of September and burn them, or enormous penalties would follow my omission. I wrote back at once. If it was to be done they must send me men to do it, as my three sons and four of my best men had gone off to the war.

This was in the autumn of 1914; have had no inspector down since. Mr. Tilley, of Dorchester, says the same of some bee experts. They spin out the name of the disease with great lucidity, but how it comes and how to fight it was beyond their intellect. If Government inspectors ordered the burning of all stocks that showed signs of "Isle of Wight" disease I think that the industry would be worse than it is now.—J. J. KETTLE.

CUMBERLAND AND WESTMORLAND BEE-KEEPERS' ASSOCIATION.

New Year's Eve, and what a welcome for 1917, from which we expect so much! The wind blowing a gale, the rain coming down in torrents, and not a cheery note to strike the ear. No street lamp is alight to guide the traveller in the storm. Brass bands and choirs have abandoned all idea of their usual open-air musical farewell to the dying year and welcome to the new. Even the church bells which for generations have "rung in" the New Year are silent, lest their peals should guide some accursed Zeppelin to the city. Even the ancient custom of "first-footing" has lost its attraction, and the "freen'ly wee deoch an' doris" fails to lure many from their cosy hearth on such a night. The mind wanders instinctively to the boys in the trenches (many of whom, alas, have driven their last skep), thence to the apiaries in which they took so much delight, and onward to the prospects of another year. It is, however, a little too early to build the proverbial castles—better far to wait awhile until we see how Dioxogen and Bacterol have merited the faith we placed in them. Retrospective, therefore, must be our thoughts, and much good can be gained by a careful review of a year just passed. The man who accused comparisons of being odious could not have thought of the comparison of one year's working with another, which I regard as most important for all bee-keepers and absolutely essential to the successful management of an association.

The majority of the annual reports of the fifty-two local honorary secretaries of the Association have now reached me, and as regards the honey yield we have fared very badly. In most districts no surplus at all has been obtained, and the bulk of members have been grateful if the bees have gathered sufficient stores to keep them through the winter. An average of 20lbs. per stock has been something to brag about. Heather was a quite a failure. We closed 1915 with 678 members, and to-day we have 738 on the books, although this number may be reduced to about the same as 1915 by non-payment of subscriptions at the end of the financial year, viz., February 28. Foul brood remains about the same as last year—a little under 3 per cent. "Isle of Wight" disease is still with us, and is largely responsible for reducing the number of stocks owned by members from 2,166 to 1,297 since October, 1915. There is no doubt, however, that a great number of stocks died of starvation during the winter 1915-16 through being packed up so short of stores on account of sugar scarcity, and their death attributed to "Isle of Wight" disease.

Stocks treated with Izal, Bacterol and Dioxogen are under observation, and many cases appear hopeful, but we must wait a few months longer before singing too loud.

In no case can there be traced any dis-

satisfaction with the work of the three experts employed. This in itself is a valuable asset to an association.

Of the 1,297 stocks referred to above, 1,008 are in hives and 54 in straw skeps, all passed as healthy by the experts. Also 221 in hives and 14 in skeps either showing signs of "Isle of Wight" disease or situated in districts either infected or suspected, which prevents them being classed as healthy, or not examined by owner's request.

The restocking scheme which in 1914 was placed in abeyance in favour of the counter proposal made by the Board of Agriculture, was revived last spring, as the Board's suggestion did not appear to take any definite form. The Keswick district having been without bees for some time, a strong local committee was appointed, who have seen to the proper treatment or destruction of all undesirable appliances during the summer. Mr. Joseph Price, who was called upon to make a second tour in the autumn to investigate and treat certain reported outbreaks of "Isle of Wight" disease, was also instructed to procure stocks he could guarantee to be healthy. These stocks, now properly established in the orchard at Derwent Hill, Crosthwaite, Keswick, by the gracious invitation of Robert Slack, Esq., are under the capable supervision of Mr. Robert Just. The stocks were selected from the apiaries of Mrs. Park, Sandes Avenue, Kendal, Mr. George Chatham, Staveley, and Mr. Thomas Dawson, Ulpha, in each case presented gratis, a kindness for which the Executive is most grateful, although only characteristic of the general good fellowship and sympathy existing amongst the Association's members. No less grateful is the Executive to several other members who placed their apiaries at the disposal of Mr. Price, but from which it has not so far been necessary to make selections. During the coming summer similar apiaries will be established in other bee-depleted areas.

The examination for the B.B.K.A. preliminary certificates at Kendal and the installation of the bees at Crosthwaite were made occasions for demonstrations and lectures by Mr. Price, who had large and appreciative audiences in each instance.

A feature of the Kendal demonstration was the surprise appearance of Mr. and Mrs. G. W. Avery, of Edinburgh, who were motoring through, but who stayed to meet their old friends. Mr. Avery gave an interesting address, much appreciated then, but more appreciated now, as it marked the last appearance in the district of Mrs. Avery, whose death on December 14 is so deeply regretted in these sister counties. It is impossible to estimate the indebtedness of this Association to Mrs. Avery, whose quiet yet capable business methods endeared her to all who had the pleasure of her acquaintance, whose kindly and motherly disposition was a temptation to her guests to forget the boundaries of hospitality, and (speaking as one who knew her intmately) whose whole-hearted devotion to her husband and family, perfect accord in all their duties and pleasures, and particularly in bee-keeping matters, tempted her to assume duties which were beyond a none too robust constitution. On behalf of the Association I tender its deepest sympathy to Mr. Avery and family in their bereavement. — JOHN STEEL, 69, Broad Street, Carlisle, Hon. Secretary and Treasurer, C. and W.B.K.A.

A WONDERFUL CITY.

THE LIFE STORY OF THE HONEY BEE.

By Oliver G. Pike, F.Z.S., F.R.P.S.

(*Continued from page* 408, *Vol. XLIV.*)

I well remember when I first commenced bee-keeping, and, like most amateurs, imagined that I thoroughly understood the management of the hive, taking some honey rather late in the summer—always a dangerous thing to do. Soon after commencing operations, the insects became very angry, and, instead of quieting them, as I might have done by exercising patience, I also became angry, and while I was trying to master them, they were doing their best to master the enemy. The result was that there was soon an angry crowd of bees dashing about the garden. A favourite cat, which was asleep on the top of an adjacent hive, not used to such disturbances in a spot which she considered her own, jumped up and bolted towards the house. Before she had travelled half the distance, one or more bees had singled her out, and, to judge by her excited jumps, and the rate at which she travelled, I knew that some wounds had been inflicted on her. My father, who was at the open window to receive her, and not knowing the cause of the commotion, suddenly found out to his cost, for a bee flew straight at him, and left its sting in his flesh. Many of the bees found their way under my clothes, and, after receiving a few stings on my legs, I covered up the hive and went indoors; but no sooner did I enter than another angry bee passed me and settled, with a loud buzz, on my mother's face! At that time the stings caused my flesh to swell, and about a week later, after the swelling had gone down, I was walking through the hall when I felt a maddening stab on my leg in exactly the same place where

I had previously been stung, and I discovered that a large wasp had found its way there, and was adding, as it were, insult to injury! But this in passing.

We are able to drive the bees down into their home with a few puffs of smoke, and it will be seen that from each wooden bar there hangs a wall of wax, covered with countless numbers of cells. The majority of these cells are small, others are larger, while here and there, on perhaps two of the combs, are some acorn-like cells of wax. The ignorant are inclined to say, Is this all? This wonderful City, then, consists only of these ten combs hanging side by side with the bees clustering thereon. Yes, that is all the casual observer may see, but what a store of wonders awaits our view I want to endeavour to explain in the following pages.

We lift one of the combs out, for all are movable, and hold it up so that we may be able better to observe it. The frightened bees rush hither and thither, but soon calm down, and we get a clearer view of one of these waxen walls of the City. Six-eighths of the surface on each side consists of cells covered with a brown material, while the other portion at the top of the comb is sealed over with pure white wax. The lower cells, covered with brown, are those in which the Queen has laid eggs, and underneath each brown cap there is a young bee, or nymph, waiting for the time to come when it has reached the stage of the perfect insect. The top, or white, portion is where the honey is stored, the bees usually storing this at the tops and sides of the hive, while the centre is used by the Queen as a brood nest. Still, as the novice looks, he is disappointed; it is all so different to what he expected. Supposing you were at the top of a high building, looking down on the people traversing the streets of a great town. You in your lofty station can only look and wonder at the forms going backwards and forwards; you know not what they are doing, or whither they are going; but come down, and what a different spectacle you look upon. You are able to see more plainly why the people are moving, and the city streets are seen to be alive with a busy throng. So it is with the hive. We, from the height of our world, are looking down into a smaller, but quite as wonderful world. At a first glance, we do not, we cannot, understand, and consequently we are inclined to despise what we call the lower creatures, and look down upon them from a superior vantage ground, thinking them not worthy of notice. But in the home of the honey-bee there is a great and wonderful story, so let us descend from our lofty pinnacle, and go down to the bees' world, and see what we can discover in those ten or a dozen waxen walls which form the City. Let us also study the habits and customs of the people on its ramparts; not giving just a hurried glance, but rather, as we stand on the threshold of this wonderful little world, may we look and learn.

CHAPTER IV.

THE INHABITANTS OF THE CITY.

The population of the hive varies at different seasons of the year. The months of June and July are when the hive is most populous, and in a full-developed colony there may be any number of bees ranging from sixty thousand to one hundred and twenty thousand. This vast total may be divided into three classes. First there is the Queen, the more correct title being mother of the hive; for she does not rule her people in the way that a human sovereign might govern a nation. Sometimes she is even herself governed by her subjects; at other times it seems as if she governed them. If the mother of the city be lost, chaos follows; and if the bees have not the power of raising another Queen, the whole colony will dwindle away and die. The Workers at times seem to respect their mother; then, again, they ignore her. But so long as she remains in the hive all the many works revolve calmly but rapidly, for there is no rest for her or her attendants during the greater part of the year, or during the time that honey is coming in. Should a Queen die, and the bees have no power to raise another, then the hive, as just mentioned, is seen to be in a state of the greatest consternation; an air of despair settles over the city; the stores are demolished; the citizens seem to know that they must perish, and the stores which they gathered for their future wants are ruthlessly devoured, and it seems to be a case of "let us eat and drink, for to-morrow we die." Thus it is a strange City, for without their Queen the whole perish, and yet the Queen herself cannot live without her Workers.

The second class of bees which we will notice are the Drones, or males. These are larger than the Worker bees, and have a more clumsy flight. They can easily be distinguished, for, in addition to their size, their large eyes meet over their head. They go about with a loud, pretentious kind of buzzing; they hustle the Workers aside, and behave as though the miniature universe were theirs. They are not unlike some of the human beings I have met; I refer to those people who make the most noise, yet after all are the least important. The Drone leads a life of idleness, yet luxurious withal. On hot summer days, when the Workers are hurrying to and from the flowers, and their mother is

methodically walking the combs, laying eggs in the cells as she goes, the Drone is basking in the sunshine, or helping himself greedily at the open vats of honey, in the City of honey in which he lives. The cosiest corners of the hive are chosen, and there they pass away their time, until the noonday sun calls them forth to rejoice in the warmth which is enjoyed alike by all Nature's creatures. They buzz about, upsetting the Workers, knocking aside the sentries, and interfering with the work of the commonwealth. Sometimes, when it is exceptionally hot, they fly to a flower or a leaf, and bask in the heat, their magnificent forms lit up with the summer sun, their eyes like a double black helmet, their wings and bodies resembling burnished metal, their antennæ like two quivering feathery plumes. Then when the coolness of approaching evening wakes them, with the same splendid pomp and importance, they fly up into the flower-scented air, dash straight towards their home, enter, pushing aside the busy Workers, go straight to where the sweetest honey of summer is stored, then, plunging their heads into the cells, they take more than they can conveniently do with, and before the last Workers have returned from the fields, the self-indulgent, self-satisfied monsters find a cosy nook, and rest while their sisters work, until they find it is time for another meal, or until the next day's sunshine calls them forth to the glory of the outer world.

(To be continued.)

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE BRITISH BAR-FRAME HIVE AND COMMERCIAL BEE-KEEPING.

[9395]—In replying to Mr. Simons' letter [9391] of December 28, may I ask him or Mr. Kidd, who mentions, in his article of October 26, a serviceable single-walled hive being supplied by Mr. Balmbra, of Alnwick, if they would kindly supply a specification of the hive they advocate?

The one illustrated on pages 350 and 351 of B.B.J., and mentioned by Mr. Simons as being cheaper than the internal fittings of the W.B.C., is, I believe, merely the American-made 8-frame Langstroth.

While awaiting their replies, may I answer as briefly as possible a few of Mr. Simons' remarks? As he has numbered them I will use his numbers in dealing with them :—

1. *Porches.*—I pointed out in my letter [9385] that no one need have porches if they do not want them. Personally, I prefer them, for reasons which I need not detail here. They certainly are not very expensive, and if the hives are bought in the flat, cost hardly any appreciable amount extra.

With regard to Mr. Simons' comparison of the photos on pages 350, 351 and 392 (Vol. XLIV.), as a business man myself, taking a fair comparison of price and quality, I fancy I should prefer the *type* of hive illustrated on 392. I should fancy that will be a good serviceable hive, years after the others are "dust and ashes."

2. Mr. Simons mentions Mr. Simmins' advice on growing bee-pasture (which many of us wish our farmer neighbours would carry out). Well, I will refer him to that same expert's comments on American hives in various chapters in his book, especially pages 453-454. In this book alone, I fancy Mr. Simons will find a complete answer to his challenge.

3. I cannot answer this comment fully until I receive Mr. Kidd's specification of the pattern hive he mentions. Mr. Simons would have us infer that his pattern has side walls 1 in. thick, but I do not think the American Langstroth is made of 1 in. thick wood; if so, it would cost as much or more than an ordinary 10-frame single-walled telescopic hive, besides being very cumbersome to handle.

4. Does Mr. Simons wish to suggest he has had personal experience of American weather? I have gathered from accounts given me by friends and relatives who live there, that the weather is, generally speaking, much more settled, so that one can expect at least about six weeks continuous, after a break, but not having visited the country yet I am no authority.

Mr. Simons rather contradicts himself about the removal of hives for wintering. If Mr. Holtermann is successful in wintering out of doors, I wonder why such men as Alexander and Root, who live much further south, go to the expense of building special bee cellars. I should almost fancy Mr. Holtermann does *not* use the American standard hive.

Mr. Simons appears to think I belong to the "wait and see" class. Well, as an amateur I have given a few of my experiences in your pages, which contradict this presumption. The only thing I am "waiting" for at present is Mr. Simons'

(or Mr. Kidd's) specification of their choice pattern hive.

With regard to legislation for bee-keepers I count myself among those who will most heartily welcome such a measure, but what has Mr. Simons *done personally* to further the desired object? At least, Mr. Simons cannot accuse me of "wait and see" on this matter, nor in the face of "Isle of Wight" trouble. I regret to have to confess to being Class "C" (with no "wait" and not much "weight").

If Mr. Simons wishes to carry on the controversy, may I ask him to bear in mind the subject is, as set forth by Mr. Kidd, in the B.B.J. for October 26, 1916—"Competition (British Competition that is) with American Hive Makers; and Standardisation of Single-Wall Hives."

In conclusion, I should greatly appreciate a few experts' opinions on what they consider the most suitable hive for the English climate. For myself I reason in this way:—The W.B.C. hive has been before the bee-keeping public for nearly thirty years, and this and its forerunner—made on the same principle—"the Cowan hive," practically hold the market, so far as the discerning and discriminating bee-keeper is concerned. If bought in the flat, properly put together, and painted every two or three years (not just washed over) Mr. Kidd will find there will be no need to complain of water rotting the hive at the junction of parts, and one will have a hive which one can hand on to one's son and grandson.

I shall be pleased, if I get that specification I am "waiting" for, to draw comparisons between the two patterns, both as regards cost, durability and efficiency.

I am afraid I have intruded more than I intended on your valuable space; so in the meanwhile will look around for a few facts for our critic's digestion.

My heartiest good wishes for a prosperous New Year for all bee-keepers.—F. M. CLARIDGE.

RIVERSIDE APIARIES AND "ISLE OF WIGHT" DISEASE.

[9396]—It is, I believe, acknowledged by scientific investigators and practical bee-keepers that the drinking-water supply may be an important source of infection in "Isle of Wight" disease.

Now it seems reasonable to suppose that the disease would be more easily stamped out in apiaries situated near a river with a perceptible current than in apiaries not so situated, as a flowing river would be likely to carry away infected matter, while a stagnant pond, or artificial drinking supply, might easily become a permanent source of infection. My own limited experience seems to bear out this hypothesis.

I should be grateful if the BRITISH BEE JOURNAL will open its columns not to a *theoretical* discussion of this question, but rather to invite its readers to state their *actual experience* in this matter. Reports both for and against the above theory will be equally welcome.—L. ILLINGWORTH.

Notices to Correspondents

E. J. R. (Cornwall).—*Precautions Against "Isle of Wight" Disease.*—Make certain that the interior of the hives and the quilts are dry and the hive roofs waterproof. Keep the hives supplied with Naphthaline and Apicure, and medicate any food given—candy or syrup—with Bacterol, Izal, or Dioxogen. Clear out any dead bees or debris from the entrance occasionally and burn them. When the weather becomes warmer and the bees fly out in search of water, see that they have a constant supply in a warm corner of the garden, and that it is free from contamination by excrement or dead bees.

Suspected Disease.

H. N. (Ashford).—Yes, you may take it that the trouble is "Isle of Wight" disease.

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Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per word as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ½*in., or* 5s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

MEAD (15 years old) for disposal; particulars.—MEAD, "BEE JOURNAL" Office, 23, Bedford-street, Strand, W.C.

PURE Heather Honey, 56lbs. for 62s. 6d.; sample 3d.—J. YOUNGER, 29, Newmarket-road, Cambridge. v 11

WANTED, stocks of pure Dutch and pure Italian Bees, on frames or in skeps; guaranteed healthy.—Prices and particulars to JESSE JOHNSON, Expert, Stafford. v 9

WANTED, Old Books on Bee-keeping, good condition.—Prices and particulars to JOHNSON, Expert, Stafford. v 10

WANTED, drawn-out wired brood and shallow frames, also geared extractor; write fully.—THURLBY, 82, Grosvenor-avenue, Wallington. v 2

SIX W.B.C. hanging section racks, nearly new, lot £1 2s 6d.—SEALE, Hardumont, Oatlands Drive, Weybridge. v 4

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., July 22, 1915.

IZAL AND "ISLE OF WIGHT" DISEASE.

"I had lost twenty stocks when I tried Izal with my remaining three stocks which were very badly affected . . . The bees are now in very good condition, due solely to the use of this disinfectant."

Sold Everywhere in Bottles, 6d. and 1/- each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

SIX W.B.C. hanging frame section boxes, with dividers, unused, soiled, 4s. each; 100 ordinary pattern section racks, 1s. 3d. each; twenty shallow frame boxes, 1s. 6d. each.—"X. Y. Z.," "BEE JOURNAL" Office, 23, Bedford-street, W.C.

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

COLONIAL HONEY.—LEONARD HALL & CO., 6, Rood-lane, London, E.C., Honey Importers and Packers for H.M. War Dept., the leading Stores, &c.

ENGLISH Honey wanted; state quantity and lowest price.—LEONARD HALL & CO., Honey Packers, 6, Rood-lane, London, E.C. v 6

QUEENS and NUCLEI.—Orders now being booked. English-reared Italian queens, tested, 5s. each, five for £1 1s.; 3-frame nuclei, 15s.—CLARIDGE, Copford Apiary, Colchester. v 12

ROWE,

28a, Moy Road, CARDIFF,

SELLS Pure Honeys, Colonial and Californian, &c., carriage paid, tins free; cash. Samples 3d. BUYS Home-produced Run Honey, Sections, and Beeswax.

IN WAR-TIME

The Nation's Food is of prime importance. The products of the Apiary, of Poultry and Farm Stock, of the Fruit and Vegetable Garden can be augmented. Buy your stock, sell the produce, through

THE BAZAAR, EXCHANGE & MART
Newspaper.

Get a Copy—Thursday, 2d.; Saturday, 1d.

The "Bazaar" publishes also practical handbooks by experts. Send for full catalogue, post free from

WINDSOR HOUSE, Breams Buildings, LONDON, E.C.

THE

British Bee-Keepers' Association.

The recognised centre of practical and scientific bee-keeping in Great Britain. Particulars and conditions of membership may be obtained from the Secretary.

W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London.

SAVE MONEY this winter by making up your own hives. Particulars of wood cut ready to make up into hives will be sent free on receipt of a post card.

E. J. BURTT, Manufacturer, GLOUCESTER.

SEASONABLE HINTS.

We have received a number of letters at different times suggesting that for the benefit of novices in the craft we devote a column to giving notes on the work to be done in the apiary each week. There are difficulties in the way of doing this. The intervals between each issue are so short that very often the notes for perhaps several weeks would of necessity be a repetition. Conditions in different parts of the country also differ considerably at any one time, so that hints that would be applicable to one locality would be quite unsuitable for another. We will, however, endeavour to give seasonable hints from time to time on matters that should receive attention, and trust they will be a help to some of our readers and render the JOURNAL more useful.

The notes given will be, generally, suitable for the greater part of the country, but readers must use their own judgment as to whether they will apply to their own particular locality.

For the present, of course, the less the bees are disturbed the better. The greatest danger for the next few weeks is from want of food. More bees die from starvation during the months of February, March and April than at any other time of the year; even old hands are often caught napping. The bees have since September been living on the honey accumulated during the summer, the stores are, therefore, becoming depleted. Breeding will have commenced, and will increase as the days go by, making greater and greater demands on the fast vanishing supply of food, and unless the stocks went into winter quarters with at least 25lbs. of sealed stores, ere the bees are able to collect nectar from the early spring flowers they will be dying for want of food. Where there is any doubt as to the stores holding out, a cake of soft candy should be given, and as one cake is consumed it should be replaced with another. Candy, we know, is expensive, but if 5s. spent on candy will preserve the life of a stock of bees, it will be a good investment, as it will mean a return of 40 or 50lbs. of honey during the coming summer, in addition to the benefit of an increased fruit crop from the fertilisation of the fruit blooms by the pollen carried from flower to flower by the bees. No flour should be mixed with the candy for another month, and it should be placed in the hive on a mild day, with as little disturbance to the bees as possible.

If any hive roofs are faulty and let in the wet they should be made waterproof, any damp quilts being dried, or replaced by dry coverings.

Make the roofs secure by driving a stake down close by one side of the hive. Fasten one end of a piece of cord five or six feet long to the stake, and to the other end fasten one or a couple of bricks; allow the cord to go over the centre of the roof, so that the bricks will hang a few inches from the ground on the side opposite the stake. In very exposed positions drive a stake at each side of the hive, and tie the roof down firmly.

During the long evenings, hives or other appliances may be repaired or made, and frames, sections, etc., prepared and placed in the racks ready for use when the busy time comes. Any appliances needed should be ordered as soon as possible. Appliance manufacturers, like all others, are short-handed, and delivery by rail is very uncertain as to time. A substantial bonus is also offered by makers of bee-goods to those who order them before March 31.

Notes made during the past season may be conned over, successes and failures noted. Memory may be refreshed by re-perusing bee literature, and plans made for the coming season.

NOTICE.

We shall be greatly obliged if our readers, when their subscriptions expire, will let us know as soon as possible if they wish to continue to take in the paper. We hope they will all do so, and, if possible, recommend the JOURNAL to other bee-keepers, and thus help to secure new subscribers. A number of subscriptions have now expired, for which no renewal has been received. Where that is the case the outside wrapper has TWO BLUE PENCIL MARKS across it, and we respectfully notify those subscribers that no further JOURNALS will be sent until an order is received, and to prevent disappointment the order should be sent at once, as in the present state of the paper market we cannot afford to print papers to sell as waste, and, in addition to that, we feel that any waste, however small and in whatever direction is at this time unpatriotic. We are, therefore, only printing a very small margin over actual orders, and back numbers will soon be out of print.

Will all those, also, who are in arrears with their subscriptions kindly send the cash along as soon as possible, and thus save us the time and expense of continually sending out small accounts.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C., on Thursday, January 18, 1917. Mr. W. F. Reid presided. There were also present Miss M. D. Sillar, Sir Ernest Spencer, Messrs. G. S. Faunch, A. Richards, G. Bryden, G. R. Alder, G. J. Flashman, T. Bevan, G. W. Judge, J. Herrod-Hempsall, J. Smallwood, Association representatives W. H. Prior (Crayford), G. Horscroft (Essex), E. Ff. Ball (Bucks).

Letters of regret at inability to attend were read from Major F. Sitwell, Messrs. A. G. Pugh, C. L. M. Eales and F. W. Harper.

The minutes of the Council meeting held on December 21, 1916, were read and confirmed.

The following new members were elected: Miss M. Whyte-Johnstone, Miss M. Lewis, Mr. W. J. B. Cobb, Mr. A. Steven and Mr. Tarlton-Rayment.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank in December amounted to £39 5s. 2d.; payments amounting to £13 9s. were recommended. The bank balance at the end of December was £109 5s. 4d.

The report and balance-sheet for 1916 were passed for printing.

It was resolved to hold the annual meeting on March 15, 1917, at the offices of the Association, 23, Bedford Street, Strand, London, W.C., at 4 p.m.

A sample of the bee-candy now being made by Messrs. Pascall from the sugar allocated for this purpose by the Sugar Commission was submitted by Mr. J. Herrod-Hempsall.

A hearty vote of thanks was passed to Sir Walter Essex, M.P., for his efforts in obtaining a supply of candy for bee-keepers, and the secretary was instructed to convey the same by letter.

On the suggestion of the Chairman the Council heartily thanked the manager (J. Herrod-Hempsall) of the BRITISH BEE JOURNAL for his efforts in the same direction.

Next meeting of the Council, February 15, 1917, at 23, Bedford Street, Strand, London, W.C.

HONEY FOR THE LONDON HOSPITAL.

The Council of the British Bee-Keepers' Association are anxious to obtain gifts of honey for the wounded soldiers in the London Hospital, where it is urgently needed both for food and medicinal purposes. They will, therefore, be grateful for gifts of same, no matter how small, from bee-keepers throughout the British Islands. It is unnecessary to explain our obligations to these brave fellows, who have sacrificed health and limbs for the sake of our country. Gifts should be sent addressed to the Secretary, B.B.K.A., 23, Bedford Street, Strand. The donors' names will be published in the "B.B.J." and RECORD.

W. HERROD-HEMPSALL,
Secretary.

Amount already received	295½ lbs.
Miss M. D. Sillar	5 lbs.
Total	300½ lbs.

STANDARDISATION OF BEE APPLIANCES IN BRITISH COLUMBIA.

By W. J. Sheppard, Nelson, B.C., Provincial Apiarist and Foul Brood Inspector.

There are so many different types of hives and appliances in use in the Province that I think it would be greatly beneficial to the bee-keeping industry if a recognised provincial standard could be established for many of the articles required. By this means bee-keeping would be much simplified, and many of the present troubles avoided. It would scarcely be worth while to attempt to standardise every appliance connected with bee-keeping, but if a standard could be agreed upon for frames, sections, and containers for putting up honey for sale, it would help very considerably. This is a work the Bee-keepers' Associations would be well fitted to perform. In this eastern section of the Province—and no doubt similar conditions prevail elsewhere—much confusion is caused by the different kinds of hives and fittings used. Hives taking Langstroth frames are mostly to be found, but these are often of various types, with frames frequently differing in dimensions so that they are not always interchangeable. In addition, we have the Danzenbaker, Heddon, Gallup, British Standard, etc., as well as amateur-made hives, of which the least said the better. The majority of hives in use are those taking ten Langstroth frames, but the eight-frame size is much in evidence. As I believe the ten-frame hive is the most convenient and most suitable for our territory, I always recommend it. I wish that a standard could be agreed upon for the ten-frame, single-wall bodies. In this event I would like to suggest that as so many of the Ham & Nott Company's bodies are at present in use, it would be advisable to keep to the same outside dimensions as these, which are as follows:—Length, 20 inches; width, 16¾ inches; depth, 9½ inches. The bee space is on the top of the frames and not below. This

body admits of a division board being used. In the States they seem to be discarding the division board altogether, but I am of opinion that it would not be altogether wise to do that here. If the division board is first removed before taking out frames there is much less danger of crushing bees or injuring the queen, beginners especially being very apt to do this. In order to permit of the use of a strong and stout division board, that is not likely to break when being removed, the sides of the bodies can be made of ¾-inch lumber, instead of ⅞-inch, and we have already adopted that plan in this district. When fixing a standard for hive parts it would be just as well to specify the kind of lumber they should preferably be made of. I think there can be no question but that white pine is the most suitable material for hive bodies, and cedar for bottom boards and roofs. If cedar is used for the bodies it is apt to splinter when prising them apart unless great care is exercised. The dimensions of the Langstroth frames in use vary mostly in the length of the top bar, and it is very annoying when transferring a frame of comb and bees to a fresh hive to find that the top bar is too long, and has to be shortened before it will fit. The present Root Langstroth frame is a good one, and we shall not go far wrong if we keep to the same outside dimensions as this frame, which are as follows:—Top bar, 18¾ inches; length of frame, 17⅝ inches; depth of frame, 9⅛ inches; width of top bar, 1 1-16th inches; depth of top bar, ⅞ inch; width of shoulders, 1⅜ inches. This frame allows a bee-space round the ends, and end staples regulate the necessary bee-space on the two sides when in the hive. The Root metal spacers are far in advance of wooden shoulders, which get daubed up with propolis, and very frequently split right off. After fixing a standard for hive bodies and frames, it would be advisable to do the same in the case of sections. A variety of patterns is on the market. As the 4¼ by 4¼ by 1⅞ inch two bee-way is, I believe, the one most in use at the present time, I think that would be the best kind to adopt. When properly filled this section will weigh as near one pound as possible, and should therefore be satisfactory alike to the consumer as well as to the producer. I do not know whether it would be necessary to specify any set pattern of super for sections, but a hanging frame has many advantages. By this means they can be more readily removed, and can also be used in conjunction with shallow extracting frames of the same depth, the latter being placed at the sides of the super and the sections in the centre. The nights are usually cool here, and the bees therefore take much more readily to the sections when arranged in this way, especially if the separators are left out of the super until the foundation is drawn out. In this position they are more likely to be filled and capped over quicker, as being in the centre the bees are better able to cluster and maintain the necessary temperature for wax secretion.

Containers for Honey.—Standard containers for putting up honey for sale are very necessary, as uniformity in this direction will greatly help to dispose of the product. Prices can be more easily fixed and controlled, and underselling thereby prevented. Small individual containers to hold two ounces of either comb or extracted honey should find a ready sale for dining cars, hotels and restaurants. Upright glass jars, with screw caps, to hold 12 ounces and 16 ounces respectively, retailing at 25 cents and 35 cents each, and metal pails of 5 lb. capacity net should be good sellers.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE NEW ZEALAND APIARIES ACT, 1906.

[9397] I was pleased to see that you are favourably disposed to receive and consider suggestions in the matter of legislation on bee-keeping.

Might I suggest, for your approval, that the New Zealand Apiaries Act (a copy of which I enclose) be published in your journal? If there were complete unanimity as to the merits of such an Act, emergency legislation might be forthcoming.

The Chief Government Apiarist to New Zealand (I. Hopkins), speaking of the benefits conferred by the 1907 Act, says:—

"I would draw special attention to the remarkable progress made in commercial bee-keeping in New Zealand

since the Government gave its support to the industry.

"The passing of our Apiaries Act in 1907 was the one thing needed," etc., etc.

G. HAMILTON GRILLS.

[The full text of the Act as reprinted below was given in the JOURNAL of February 21, 1907.—EDS.]

BE IT ENACTED by the General Assembly of New Zealand in Parliament assembled, and by the authority of the same, as follows:—

1. The Short Title of this Act is "The Apiaries Act, 1906."
2. In this Act, if not inconsistent with the context—
   "Apiary" means any place where one or more colonies of bees are kept;
   "Bee-keeper" means any person who keeps one or more colonies of bees or allows the same to be kept upon any land occupied by him;
   "Colony of bees" means a collection of honey-bees domiciled in any hive;
   "Disease" means foul brood (*Bacillus alvei*), bee-moths (*Galleria mellonella* and *Achræa grizzella*), and any other diseases or pests from time to time declared by the Governor in Council to be diseases;
   "Frame-hive" means a hive containing movable frames in which the combs are built so as to allow of their ready removal for examination;
   "Hive" means any box, basket, skep, barrel, or other receptacle in which a colony of bees is domiciled;
   "Inspector" means any person appointed by the Governor to carry out the provisions of this Act;
3. Every bee-keeper in whose apiary any disease appears shall, within seven days after first discovering or becoming aware of its presence, send written notice thereof to the Secretary for Agriculture at Wellington, or verbal notice to any Inspector of Stock.
4. The Governor may from time to time appoint such Inspectors and other officers, with such powers and functions, as he deems necessary in order to carry out the provisions of the Act.
5. The Inspector may enter upon any premises or buildings for the purpose of examining any bees, hives, or bee-appliances, and if the same are found to be affected with disease he may direct the treatment to be followed, and the time within which such treatment must be undertaken; or, if in his opinion the disease is too fully developed to be cured, he may direct the bee-keeper within a specified time to destroy by fire the bees, hives, and appliances so affected, or such portions thereof as he deems necessary.
6. Where bees affected by disease are domiciled in common boxes, box-hives, or any hive from which the bee-combs cannot readily be removed without cutting them, or, if already in frame-hives, the combs are not so built within frames that each comb can be removed from the hive separately and readily without cutting, for examination, the Inspector may direct the bee-keeper within a specified time to transfer such bees to frame-hives properly built as aforesaid.
7. (1) Every direction by an Inspector shall be in writing under his hand, and shall be either delivered to the bee-keeper personally or sent to him by letter addressed to him at his last-known place of abode. (2) Every such direction shall be faithfully complied with by the bee-keeper to whom it is addressed, and, in default of compliance within the time specified, the Inspector may at once destroy or cause to be destroyed by fire, at the expense of the bee-keeper, any bees, hives, and appliances found to be infected with disease.
8. No bee-keeper shall—
   (*a*) Keep or allow to be kept upon any land occupied by him any diseased bees, bee-combs, or infected hives or appliances without immediately taking the proper steps to cure the disease; or
   (*b*) Sell, barter, or give away any bees or honey from an infected apiary, or any appliances used in such apiary.
9. Every person is liable to a fine not exceeding ten pounds who—
   (*a*) Obstructs an Inspector in the exercise of his duties under this Act, or refuses to permit the destruction of infected bees and appliances;
   (*b*) Fails to comply with any direction of the Inspector;
   (*c*) Commits any other breach of this Act.
10. No person shall be entitled to compensation for anything lawfully done under this Act.
11. The Governor may from time to time, by Order in Council gazetted, declare any disease or pest affecting bees or apiaries (other than those mentioned in Section 2 hereof) to be a disease within the meaning of this Act.

THE BRITISH BAR-FRAME HIVE AND COMMERCIAL BEE-KEEPING.

[9398] I am sure bee-keepers all over the country will welcome the correspondence in the B.B.J. on the subject of the "British Bar-Frame Hive and Commercial Bee-Keeping." To my mind this

question of the hive is the most important one for us to consider at this time. Bee-keeping in England does not rest on a practical commercial basis, and the fault is to be found in the hives at present at our disposal, and not in the prevalence of bee-diseases. I feel sure that we should hear less of disease if the hives were of more scientific construction.

If you will allow me space in your columns I should like to make a few suggestions in the hope of promoting a discussion on this all-important question.

I.—The popular W.B.C. hive, which I am at present using, has, in my opinion, three very important faults.

(*a*) It does not provide sufficient ventilation.

(*b*) It prevents absolute control over the bees in the matter of natural swarming, which should never be allowed in an apiary run on commercial lines.

(*c*) Its congested condition during the honey-flow, when supered, whilst encouraging swarming, results in loss of surplus and unnecessary wear and tear of the bees through their having to force an entrance through the brood-nest to the supers above.

II. The only scientific hive at present is, in my opinion, the single "Conqueror," invented by Mr. S. Simmins. I should like to explain to those of your readers who do not know this hive, that it consists of a deep outer case containing the brood and surplus chambers. These chambers rest on runners, so that, having removed the roof and back, any chamber can be drawn out and inspected independently of the others in the hive. There is a ¼-in. space between each chamber, and also between them and the outer wall of the case, so that the bees, returning with their load, may have a free access to any part of the hive. This absence of congestion and exceptional ventilation, together with Simmins' non-swarming chamber—which consists of a shallow chamber with ¼-in. starters placed *beneath* the brood-nest—while preventing, in nearly every case, even the desire to swarm, also induces a healthy condition owing to the circulation of fresh air and absence of damp, which makes it difficult for disease to gain a foothold.

III.—There are, however, in my opinion, two grave faults to be found with this hive.

(*a*) Should the bees, having free access to all parts, propolise the runners on which the chambers rest, it prevents their easy withdrawal. All the advantages claimed do not seem to me to be worth the risk of this serious trouble. I know certain preparations may lessen this risk, but in some seasons the trouble is sure to rise.

(*b* The difficulty of keeping the bees under control when the whole back of the hive is removed, as it must be at every operation.

IV.—I, therefore, suggest to your readers the following compromise between these two hives, which, in my opinion, contains the advantages of both with the disadvantages of neither.

(*a*) The floor-board in one level piece.

(*b*) The outer case (with or without porch) resting on above, after the W.B.C. fashion, and with a ¼-in. space between it and the inside chambers.

(*c*) The entrance, measuring about 2ins. deep, and nearly the whole width of the hive, to be cut out of the front side of the outer case.

(*d*) The non-swarming chamber of shallow frames with ¼-in. starters, to be exact depth of frames, and to rest on ¼-in. blocks attached to the four corners of chamber.

(*e*) The brood-chamber to be the exact depth of the standard frames, and to rest on four ¼-in. blocks at the corners—and so on, with the second brood-chamber and supers.

The large entrance, non-swarming chamber, ¼-in. bee-space between the chambers, and also between the sides of the chambers and outer wall of case, will so prevent swarming that I attach no importance to the necessity of having the chambers on runners so that they can be examined independently, as it would not be necessary to examine the brood-nest after the usual pre-supering arrangement had taken place.

The chambers resting on only four contact points would give less trouble from propolisation than in the usual W.B.C. hive. For wintering, the brood-chamber would rest on an empty shallow chamber, and so secure the deep space under the nest which is so important for successful wintering. The quilts, as Simmins recommends, would be tucked close to outer wall of case on front and sides, leaving a free passage at back for ventilation without draught.—DUDLEY W. FIELDEN.

EXPERIENCES DURING 1916.

[9399] Last spring you published a letter from me giving my experiences during 1915, and I write now on account of 1916, which, so far as my apiary was concerned, was a perfectly hopeless year. I have never seen such a show of white clover during June and July, but till mid-July the weather was so bad that the honey gathered from it was practically nil. However, one must be thankful in these times that during the later half of July and August the bees stored enough

in the brood chambers to make feeding for the winter unnecessary.

The two hives which I closed down for the winter in 1915 came through all right, and here is my record for 1916, compiled from notes which I made throughout the season:—

Hive No. 1.—A lot of driven (black) bees which I united with a dwindling stock of Italians on October 13, 1915—1915 Queen. On January 22 I noticed pollen being taken into this and the other hive. This hive showed signs of "Isle of Wight" disease quite early (the stock with which they were united had dwindled from the disease, but had recovered after spraying with B. Well), but it developed into a strong stock, and threw a very large swarm on May 18. After securing the swarm I was only out of the garden for about ten minutes before I was ready to hive it, but during that ten minutes it decamped, and I did not recover it. On May 28 a cast issued, and I secured this and returned it to the hive, after taking out four frames of comb and a newly-hatched queen to form another stock On June 8 this latter I found to be queenless, and introduced a comb of brood and eggs which I took from No. 2 hive. On the 20th there were two beautiful sealed queen-cells, but on the 30th it was again queenless. In the meantime, on June 17, I found that the original stock was queenless, and so introduced a bought queen, but by the beginning of July both these stocks were giving off daily such quantities of crawlers that I united and sulphured them, to prevent the disease from spreading to the other hive. No more *black* bees for me! All the same I believe I could have saved them if I could have secured young queens earlier. In spite of everything I am still a firm believer in the possibility of curing the disease.

One curious fact about this stock was that throughout May and June numbers of drones were cast out of the hive every day, before any serious crawling was noticeable amongst the workers. Can you suggest an explanation? [Probably owing to shortage of food or bad weather.—Eds.]

Hive No. 2.—Italian with 1913 queen—the mother of my apiary. This stock developed slowly, owing, no doubt, to the age of the queen. A swarm came off on July 2, but the queen was unable to fly, and most of the bees returned to the hive. I caught the queen and put her back in the hive, after taking out four frames of comb with several queen cells to form another stock. On the 14th this new lot was queenless, and on the same day the old stock swarmed again. This time the queen fell on the ground and perished, the swarm returning to the hive. On the 17th they swarmed again, and I made the swarm into a third stock, at the same time cutting a fine queen cell out of the original and giving it to the queenless stock. And at last my perseverance was rewarded, for on July 29 I found eggs and brood in all three hives. I closed up on October 1, none of the stocks having to be fed.

All three stocks were alive on January 15 this year. It sounds a dismal enough record, does it not? I had no luck in my attempts to rear queens, but at that I am not surprised, seeing what the weather was like. But I am not downhearted by any means, and look forward to better times this year, which I hope will be shared by all bee-keepers.—(Rev.) M. S. Page.

"ISLE OF WIGHT" DISEASE.

[9400] Having lost all my stocks of bees—twenty-one in number—owing to the above disease in 1914 and 1915, I determined to make a fresh start in the spring of 1916, and to try and cure the disease.

I obtained a stock of bees which showed distinct signs of "Isle of Wight" disease, and placed them in a disinfected hive. They made good progress, and in July threw a swarm which I returned. Previous to swarming I had inserted a frame with foundation, but at the time of swarming this had only been partly drawn out, and looked soiled. On examining the hive about a week after swarming I was surprised to find very few old bees, and the comb above mentioned had not been touched. After returning the swarm, the bees began to destroy the drones, and shortly afterwards many bees were seen crawling about on the ground, with one pair of wings turned up perpendicularly, showing unmistakable symptoms of the disease. I then gave them a good dusting with flowers of sulphur—on the combs, and between them.

On examining the bees a week later I was pleased to find them very active, no signs of disease, the sheet of foundation drawn out, and the comb full of eggs. I gave another good dusting with sulphur—using about a tablespoonful—and since then the bees have appeared very healthy, and fly freely now on sunny days. In June I obtained a swarm of bees which I placed in a hive in which bees had died from "Isle of Wight" disease. I did not disinfect the hive. In July I gave them a good dusting with flowers of sulphur, and another one later.

These bees never showed any signs of disease, are now healthy and strong, and gave me a few sections of honey.

My idea was, when giving sulphur, that if the bees consumed some of it, it might act as an intestinal disinfectant, but on examining the bees a few days after dusting with the sulphur, I detected a strong

odour of sulphur, which was no doubt due to sulphur dioxide given off by the warmth of the hive. This is probably absorbed by the bees in the process of respiration, and converted into sulphurous acid, which is a powerful disinfectant, and in this way assists in destroying the protozoön. Possibly the disease was kept in check in the days when bees were destroyed by sulphur fumes, in order to obtain the honey; as sulphur when burnt forms sulphurous acid, this would disinfect the skeps, which would be used again for hiving swarms in.

It will be interesting to see if the bees survive, as in this district almost all the bees have been destroyed by the disease. —WILLIAM ALLEN, M.B., C.M., Ambleside.

LEGISLATION AND BEE DISEASES.

[9401] Owing to the opposition to legislation of a small section of bee-keepers the whole industry is hung up—that is what it amounts to.

We have had experts for years all over the country asking for legislation, and because of this small section we are officially informed that we must wait until the war is over, though it is difficult to see how it can be settled even then, for the small opposition will still be there—and the question is how are they to fight it out, will the small opposition still predominate?

In the meantime the mortality of bees is to continue.

If the Board of Agriculture cannot see the necessity for legislation it seems to be hopeless to agitate for it.

Can you tell us who represents the bee-keeping industry at the Board of Agriculture, and if he has had a good, practical experience?

Since you invite suggestions, I would suggest that if there is not a practical expert at the Board of Agriculture, that bee-keepers agitate to have one appointed, and one who has the industry thoroughly at heart.

Other countries have had legislation for years; does it work so badly that it is thought inadvisable to have it here?—F. W. MOORE.

[To the best of our knowledge there is no one at the Board of Agriculture who especially represents the bee-keeping industry.—EDS.]

HONEY IMPORTS.

The registered value of honey imported into the United Kingdom during the month of December, 1916, was £1,380.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M Customs.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

H. K. SPRINGETT (Cheam).—*Making Candy into Syrup.*—Break the candy into small pieces, put into a pan or other vessel, and add three-quarters of a pint of hot water, and stir until the candy is all dissolved.

MISS C. B. SMITH (Brokenhurst).—*Queries on Feeding.*—The brown Barbadoes sugar is quite unfit for bee food, either candy or syrup, as it contains far too much molasses. *All* brown sugars are unsuitable, even if pure cane. You may turn the quilt back far enough to note if there is any sealed food left. You will be able to see without disturbing the combs. You may make a fuller examination in March, but do not do more than is necessary to note the quantity of stores.

"WONDERING" (Didsbury).—*Making a Living from Bee-keeping.*—(1) We do not think bee-keeping alone can be depended upon to yield a decent living, especially under present circumstances. It should be taken up in conjunction with fruit growing, market gardening, or poultry farming, preferably the first two. (2) No. (3) It is difficult to say which is the best district—Essex, Suffolk, Cambs., Hampshire, and Lincs. are as good as any. (4) Better wait until the scourge of "Isle of Wight" disease has been mastered.

T. MASON (Tipton).—The secretary of the South Staffs and District Association is Mr. J. Price, Haden Hill, Old Hill, Staffs., who will give you all particulars on application. Your best plan is to get in touch with a practical bee-keeper if possible. Half an hour with him and a hive of bees will be worth much more than anything we can write.

Suspected Disease.

A. B. STEVENS (W. Bromwich), R. TOWNSEND (Aberystwyth), J. E. JAMES (Pontardulais).—The trouble is "Isle of Wight" disease.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisements of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per word as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ¼*in., or* 5s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

GOOD Honey wanted.—A. E. WARREN, Bee Cottage, Simpson, Bletchley. v 13

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., July 22, 1915.

IZAL AND "ISLE OF WIGHT" DISEASE.

"I had lost twenty stocks when I tried Izal with my remaining three stocks which were very badly affected . . . The bees are now in very good condition, due solely to the use of this disinfectant."

Sold Everywhere in Bottles, 6d. and 1/- each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

SIX W.B.C. hanging frame section boxes, with dividers, unused, soiled, 4s. each; 100 ordinary pattern section racks, 1s. 3d. each.—"X. Y. Z.," "BEE JOURNAL" Office, 23, Bedford-street, W.C.

THREE 28lb. tins good light granulated Honey, 25s. per tin, carriage forward; sample 3d.—A. LEE, Eastleigh, Bideford, N. Devon. v 14

WANTED, 4-cage Extractor, reversible, each cage must hold two shallow frames; fullest particulars, price.—PEARSON, Shalbourne, Wilts. v 15

MEAD (15 years old) for disposal; particulars.—MEAD, "BEE JOURNAL" Office, 23, Bedford-street, Strand, W.C.

WANTED, stocks of pure Dutch and pure Italian Bees, on frames or in skeps; guaranteed healthy.—Prices and particulars to JESSE JOHNSON, Expert, Stafford. v 9

WANTED, Old Books on Bee-keeping, good condition.—Prices and particulars to JOHNSON, Expert, Stafford. v 10

GIVING up bee-keeping.—About 6lb. foundations, bottles, dividers, sections, etc, to sell, cheaply.—ROBERTS, Kangel Cross, Ripon. v 16

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

COLONIAL HONEY.—LEONARD HALL & CO., 6, Rood-lane, London, E.C., Honey Importers and Packers for H.M. War Dept., the leading Stores, &c.

MESSRS. STONE & SON, LTD., Chemists, Exeter, are buyers of English Beeswax, in large or small quantities. Write, stating quantity and price required.

ENGLISH Honey wanted; state quantity and lowest price.—LEONARD HALL & CO., Honey Packers, 6, Rood-lane, London, E.C. v 6

QUEENS and NUCLEI.—Orders now being booked. English-reared Italian queens, tested, 5s. each, five for £1 1s.; 3-frame nuclei, 15s.—CLARIDGE, Copford Apiary, Colchester. v 12

ROWE,

28a, Moy Road, CARDIFF,

SELLS Pure Honeys, Colonial and Californian, &c., carriage paid, tins free; cash. Samples 3d. BUYS Home-produced **Run Honey, Sections, and Beeswax.**

SAVE MONEY this winter by making up your own hives. Particulars of wood cut ready to make up into hives will be sent free on receipt of a post card.

E. J. BURTT, Manufacturer, GLOUCESTER.

WAR RELIEF FUND.

Our readers will recollect we collected a small amount for the relief of war refugees. The last contribution of £1 11s. 8d. was taken over to the War Refugees Committee at General Buildings, Aldwych, W.C., on June 20, 1916, and a donation of 1s. from Mr. G. Cummings on January 25 last. We have just received the following account showing how the money has been spent :—

BRITISH BEE JOURNAL FUND.

	£	s.	d.
LUYCKX.			
Allowance to Belgian during illness	3	0	
FASSART.			
Allowance for fares to indigent journalist	1	8	
RENAUDIERE.			
Allowance to elderly invalid	3	0	
TEYGELEN.			
Allowance to refugee for sick family	10	0	
VAN DEN WYNGAERT.			
Allowance for extra nourishment for man during illness	5	0	
VAN EVERBROECK.			
Allowance to refugee on account of wife's confinement	10	0	
	£1	12	8

BRITISH BEE-KEEPERS' ASSOCIATION.

RESTOCKING SCHEME.

Particulars of the restocking scheme formulated by the British Bee-keepers' Association are now ready, and may be obtained by secretaries of affiliated associations on application to the Secretary.

NOTICE.

We shall be greatly obliged if our readers, when their subscriptions expire, will let us know as soon as possible if they wish to continue to take in the paper. We hope they will all do so, and, if possible, recommend the JOURNAL to other bee-keepers, and thus help to secure new subscribers. A number of subscriptions have now expired, for which no renewal has been received. Where that is the case the outside wrapper has TWO BLUE PENCIL MARKS across it, and we respectfully notify those subscribers that no further JOURNALS will be sent until an order is received, and to prevent disappointment the order should be sent at once, as in the present state of the paper market we cannot afford to print papers to sell as waste, and, in addition to that, we feel that any waste, however small and in whatever direction is at this time unpatriotic. We are, therefore, only printing a very small margin over actual orders, and back numbers will soon be out of print.

Will all those, also, who are in arrears with their subscriptions kindly send the cash along as soon as possible, and thus save us the time and expense of continually sending out small accounts.

DEATH OF MR. ED. BERTRAND.

Just as we are going to press we have received the sad news of the death of one of the most eminent of European bee-keepers, Mr. Ed. Bertrand, who passed away on the 16th ult. We hope to give his biography next week.

DORSET YARN.

"I know a bank whereon the wild thyme grows, and the nodding, nodding violet blows," so wrote the great dramatist who seemed to notice everything. Wild thyme is of no use to sell in the markets; there is no length of stem for bunching. Growing in the grass it is stunted, but it is wonderful how the bees search the small flowers for the nectar they know is there. I have seen the Downs, which reach from Fordingbridge to the River Avon—miles of land only used for sheep and the trial runs of racehorses which used to be at the racing stables, the only habitation for miles—with large patches of this fragrant perennial. Though "far from the haunts of man" bees were there in great numbers, in the old Volunteering days, when the only holiday one had was a week in camp—each year a different place—one was able to see Nature in its wonderful variations: these chalk downs with wild mignonette, and batches of sun rose, had a vegetation so different to the Bagshot Sands, on which I had lived in Surrey, Berks, Hants and Dorset. When the order came, "Halt and lie down," what a fragrant couch; the wealth of flowers, low growing, close to the cropped grass—even the sun rose does not get any great height, as the sheep crop off everything but thistles, the solitary thistle standing like a sentinel guarding the floral units growing round. Then the insect life around you—all is beautiful, the heavy flying burnell moths, small blue and copper butterflies, ants, yellow and black, field crickets and grasshoppers adding music with the larks above, all seem to be showing the wonderful works of God.

When the assembly was blown by the C.O.'s bugler, the men went over downs

and valleys, passing acres of alsike clover, a beautiful sight to see, and once seen never forgotten. A bee farm in these fertile acres would yield honey by the ton in a good season. I have noticed more bees on what is called "lemon thyme" than on the stronger growing one that is mostly used for flavouring purposes; the variegated thyme, that is used for mixing with flowers in bedding borders in summer, when in bloom, is eagerly gleaned over by several varieties of bees.—J. J. KETTLE.

NOTES BY THE WAY.

May I suggest that the present time is not a suitable one to start a controversy with the object of discussing legislation which the writer of [9384] says is an absolute necessity. Let us at least, Mr. Editor, get through the war before another "hornet's nest" is stirred up. The last attempt of the minority of bee-keepers to induce the Government, which knew practically nothing of bees or bee-keeping, to pass an Act, failed as soon as the whole matter was laid before them by practical bee-keepers.

Mr. Moore [9386] asks for no unpleasant opposition, but he wants drastic power, controlling power. He says "*we*." Who are the "we" that are so anxious to usurp power of compulsion over their neighbours? [9384] hankers after power to bring within his mesh "the *careless* bee-keeper" and burn him out. Then he would implore Mr. Long to muzzle the bees of these islands a year, as he did the dogs to clear out rabies, or by destruction, as in tuberculosis and anthrax in cattle, or isolation, as in sheep or pigs. This I consider amateur legislation. Who can isolate flying insects such as bees, for six weeks, or declare a village or several villages an infected area? The whole idea is at least farcical. Then who will be experts or inspectors? Our friend, Mr. Heap, will, I opine, be chief inspector or expert in chief, who, when he arrives to control (!), with his scientific armoury, and goes minutely through the strong colonies, bee after bee, before he is quite sure that the stock has not a lurking germ or spore of Nosema apis somewhere in the chitine or spiracles of the last few bees.

I, as a scourged member of the craft, am not chastened by being wiped out, or nearly so, twice. "When perseverance fails the swan sinks," I set about repairing the damage at the outset with some success; in fact, by using formalin and Lysol in equal proportions spread on strips of thin board and pushed in at the entrances twice weekly of many of my hives, the first spring of the outbreak of "Isle of Wight" disease I preserved every stock so treated, and I quite thought I had got a remedy, and had a good take of honey from these hives, but the following winter and spring I lost most of them. Then I bought new swarms, both English and Dutch. Both strains were hived in disinfected hives, boiled frames, new foundations. Again using most of the advertised remedies, I had a fair take of honey. The winter of 1915-16 reduced me to a few stocks, and as the spring advanced these developed symptoms of "Isle of Wight" disease. Now for the new method of cure. Mr. Lee sent me a bottle of Bacterol, and after a few days' use the hydra-headed monster of, yclept in the common vernacular "Isle of Wight" disease, cleared out, I trust for all time, and if we have got a real permanent remedy for the bee plague—thanks to our gallant Allies, the savants of Italy—the final quietus will be given to the senile clamour for legislative power to isolate a bee on the wing. As by using Bacterol the bees are only sprayed with thin syrup (Bacterolised), they recover, go on with their work with a vim, in the same infected (?) hive, living on the infected (?) food, as stored by them when the disease was in the incipient stage. No scorching out of hive, fitting new frames and quilts, and feeding up 30 or 40 lbs. of syrup for stores, no worry because old Dick Welch won't take up his rotten old skep over the way. Surely there are brighter and happier days for bee-keepers coming in the future. Read, mark, learn and digest article 9387.—W. WOODLEY, Beedon, Newbury.

A WONDERFUL CITY.

THE LIFE STORY OF THE HONEY BEE.

By Oliver G. Pike, F.Z.S., F.R.P.S.

(Continued from page 18.)

Then, thirdly, there are the Workers. These busy insects are undeveloped females. They are the builders of the City, the untiring workers, whose labours never cease during the hours and days of summer. Theirs is a life altogether different from that of the Drone or Queen. The life of the latter is passed in darkness; for one or two brief hours alone during her existence, which may be four years, she sees the light, looks on the flowers and breathes in the soft summer air. Just this one short period is spent in the magnificence of the sunshine, then her whole existence is passed away on the dark walls of the City, amongst the divisions of wax, and amid the cells of nectar from the world of sunshine which her daughters gather. She has a long life, but it is a life away from the summer sun; her daughters, on the contrary, live a more mixed life; they go out foraging when the winsome hours of springtime call into

being myriads of insects, when the same joyous sunshine of May opens to them millions of flowery petals, each containing a tiny drop of the sweet liquid they go out far to seek. They revel in the gladsome days of June, their little life is one long day, without rest from their arduous labours. It is partly spent, as I have mentioned, amongst the flowers, and the other parts on the waxen walls of the populous City for which they give their work and life: for millions of the Worker bees that labour so hard never taste of the stores they have gathered; the Queen alone lives for that; and if these busy Workers know, if they have any idea that they shall not live to enjoy the result of their work, then we can only once more echo that theirs is indeed a wonderful existence, an unselfish life that we mortals cannot understand. According to our way of thinking, the Worker bee has a more enjoyable life than that of the mother of the hive; her labours are more varied, but her time is short, three to five weeks being the extent of her existence in the summer, then she dies, worn out by work, while if she rested and did no work she would probably live six or eight months! Often on a summer day one may see a Worker bee just reach her home, then fall exhausted from the alighting board. On examining this insect we see that her wings are battered and torn, her once fine form is shorn of its beauty; in fact, her life is spent, she has sacrificed it for the support of future generations. Overworked, weary, and worn away by ceaseless labours, she just reaches her home, fails to enter, then falls dead or dying on the threshold of the City she has lived and worked for. Is any sympathy shown her by her sisters? No, none at all; they, younger, still working hard, would not move a hair's breadth to help her; they would not attempt to assist her into the hive; and if she entered she would be turned out, and carried away to die as a useless member of a community that cares not a jot for old age, has no sympathy for the infirm or crippled, and knows not what it is to love. It is a hard and pathetic fate, but such is the lot of hundreds and thousands of the daughters of the Queen which alone lives to see the future generations.

But there are occasions when undoubted sympathy is shown by the bees. Try the experiment of shutting about a dozen bees in a room. They will all fly to the window end endeavour to escape; but, at last, finding this impossible, and becoming hungry, they will all congregate together in a corner of the glass, then they actually share out the food that they have; and I have often seen such little groups, some of the members with their tongues out, giving food to those who were in need! If we go to a hive in the winter, or at any time when no supplies of honey are coming in, which is on the verge of starvation, we shall find that the last drop of honey is given to the Queen, and her attendants will search the hive over for the precious food, and give their lives to save her—that is, they will starve themselves, and with their last strength will crawl towards their mother and give her the last particle of food which the hive can provide. The bees undoubtedly know that without their mother they cannot prosper, and this might possibly be more a case of duty than sympathy, yet from our standpoint it is a sympathetic and noble action.

CHAPTER V.

THE LIFE OF A BEE.

If we glance at a comb of wax taken from a hive, we see two different-sized cells. The smaller are called Worker cells, the larger Drone cells. By this we mean that the bees are reared in these six-sided waxen cradles, the Worker-bees in the smaller and Drones in the larger.

Every observer of bees should have an observatory, or glass hive; with this he can see and more clearly understand the many wonders in the life-history of these fascinating insects. With such a hive it is possible to see the Queen surrounded with her attendants as she passes over the combs and places her eggs in the cells, and all the many processes of the workers as they go through their daily duties.

The eggs laid by the Queen are very minute, measuring about one-twelfth of an inch; they are slightly curved, and of a pale blue tinge. One end of each egg is larger than the other, and when laid has a slightly glutinous tip, which helps to hold it in its place at the base of the cell. One egg only as a rule is laid in each cell, but a young and very prolific Queen will sometimes in her eagerness drop two or three eggs in each cell. I have sometimes seen a patch of comb with two eggs in several of the cells.

Let us go to our observatory hive, and there watch the Queen at work. There is not much difficulty in finding her, for her red legs and longer body soon disclose her. She is surrounded by a group of attendants, and all of these keep their heads pointed towards their mother or chief, and they very much resemble a star-like cluster. Many of her ladies-in-waiting are seen to be licking her body, and stroking her wings with their antennæ; others in front offer her food, for the Queen never helps herself from the supplies of honey after she has become a mother, but has the very best honey given

to her, and this is already half-digested by those bees which undertake the duties of feeding her. No Drone, or over-eager Worker, is allowed to interfere with her progress; all such are cleared out of the way by the Queen's attendants. If she should suddenly move ahead and get away from those attendants, the bees with which she comes in contact will rush aside, as if they were afraid of barring her progress. As the Queen moves over the comb while laying, her head is first placed into each cell to see that it is perfectly clean; and, being satisfied in this respect, she proceeds to lay an egg by placing her long abdomen in the cells, then she gives a slight turn and withdraws her body, leaving the egg at the bottom of the cell. She passes on to the next, until a large cluster of cells all contain their single egg. If by chance one of the cells should contain any dirt or foreign matter the Queen passes it by, and very quickly a scavenger comes along and undertakes the cleaning. When the Queen has traversed one side of the comb she goes to the other side, and lays eggs in the corresponding opposite cells. There is no impatience in her movements. She goes over the waxen cells of the City in a slow, methodical manner.

(To be continued.)

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE BRITISH BAR-FRAME HIVE AND COMMERCIAL BEE-KEEPING.

[9402] I was much interested in Mr. Fielden's letter [9398] in the B.B.J. of January 25, referring to the advantages and disadvantages of the Conqueror hive. May I give my experience of one I possess?

In the year 1915 I procured a small second swarm of Italian bees weighing only 2¾lbs., and put them into a single Conqueror hive fitted with commercial frames. This swarm that year gave me 75lbs. of honey. In the autumn I fed them with medicated syrup, and they wintered well with an empty shallow frame-box under the brood-box.

At the end of February, 1916, I fed syrup, and this stock became enormously strong, and in spite of my putting shallow frames under brood-box, a rack of sections over, and another rack of shallow frames on the top, this stock threw off a huge swarm on May 27, which, unfortunately, I lost. Another swarm issued on June 14. I put this in a W.B.C. hive, and it gave me 70 lbs. of honey during the year. The stock in Conqueror gave 134lbs., besides throwing off the two swarms.

These colonies both developed "Isle of Wight" disease in July, but after spraying with Izal and feeding on medicated syrup for a week or ten days, they recovered and resumed work.

I quite agree with Mr. Fielden about the two faults of the Conqueror. The first one he mentioned, about the propolisation of the runners, I found was mitigated by smearing vaseline all over them.

I should like to know whether Mr. Fielden has tried "the compromise between the two hives" he described, and, if so, whether he ever found that the bees built in the ¼-in. space between the brood-box and super above, which occurred on one occasion in my Conqueror.

I should also like to know whether he means that this new hive should have an outer case all in one like the Conqueror, the only difference being that it is detached from the floor-board, or an outer cover to the brood-box like the W.B.C. with lifts?—R. F. S.

[9403] I have been reading the letters *re* the British frame hive in the last issue of your paper, and I should like to say that there can be no doubt that it would be a distinct advantage if we had a standardised hive. The difficulty is to decide on what it is to be like. Those who advocate a cheap hive like that in use in America, with no outer casing, are, I believe, wrong. I see a good deal is said about keeping out the cold, but I think most bee-keepers of experience will agree that it is not of any great importance to do more than keep out draughts and wind. The adversary and enemy of bees in our climate is not cold, but *damp*. Keep your hives dry, and the bees, if provided with abundant food, will do the rest.

Nor does it stand to reason that hives in sections, and with single walls simply resting on each other, with no outer case and no cleats, will keep out damp well in a climate which is as damp as that of England, where often for weeks on end there is rain and fog and no dryness in the air.

I have my own hives made for me by a bee-keeping carpenter to my own pat-

tern. They are all quite square, exactly alike, and every joint is painted and put together while the paint is wet. Roofs are covered with calico and painted under and over. They cost a good deal, but my experience has shown me that they are cheap at the price, and I am having several new ones made this winter.

With regard to No. 9398, BRITISH BEE JOURNAL, January 25, I think Mr. Fielden has forgotten that it would be out of most bee-keepers' power to find money to set up an apiary of any size on the lines he lays down. Mr. Simmins' hives are beautifully made (I have used them), but the price is correspondingly high. I do not intend to imply that these hives are not worth the money, but they are too expensive to become generally used.

The chief fault I have to find with the British standard is the smallness of the frames, but many people like them. I agree that the ordinary W.B.C. hive does not give enough ventilation, but that can be easily remedied.—R. B. MANLEY.

[9404] It is interesting, and to a certain extent amusing to read Mr. Dudley Fielden's so-called discovery that the bar-frame hives in use at the present time are neither practical nor scientific, and that they are apparently the cause of prevalent diseases. As to bee-keeping not being a success commercially, I think experienced bee-keepers who have controlled large apiaries, and who have become acclimatised to the many changes of climate during the past twenty years, in which they have experienced temperatures of 80 deg. in the shade in May, and cold winds and rain in July, sometimes necessitating artificial feeding at this period, know too well that however well constructed a hive may be it is no guarantee of commercial success, or as a preventive and remedy for disease.

Probably Mr. Fielden wishes to discuss this subject on what might be termed Colonial lines, as he has evidently taken an interest in a type of hive which is more suitable for the Colonies, where the weather is more consistent than in England. Apparently he has not read the earlier comments of a decade or two ago *re* the "Conqueror" hive, or of the so-called non-swarming hives.

Theoretically some of his ideas sound very well, practically—well, I would rather someone else repeat what I have heard said about, or to, some of these "ideal" hives.

From what one gathers he favours the "Conqueror" type of hive. The W.B.C. hive is second best, but his "compromise" is the typical one. May I say, that if he has visited numerous apiaries at various times of the year, and in all kinds of seasons in England, he will have discovered that, given a good locality, good climatic conditions, vigorous stocks of bees, so controlled that they were ready for the honey-flow when it arrived, so that good results were obtained, the bee-keepers advocated different patterns of hives, including single-wall, W.B.C. and combination hives. Very few, indeed, favoured the "Conqueror" type, and no one hive in particular was considered the best. I have known averages of honey reaching over a hundredweight per hive from W.B.C. patterns, also high averages from telescoping patterns, and combination hives. I have also seen very little honey obtained from any of these kinds in the same localities in bad seasons.

In dealing with the ventilation of hives, I cannot see where the difficulty lies, as most modern patterns can be so arranged as to give a current of air under the brood-chambers by simply raising them from the floor-boards, and also allowing full opening at the entrances when required. If bees are stimulated till they reach swarming-point before the honey-flow nuclei can be made without weakening the parent stocks to the extent of preventing them getting a good surplus of honey, all this is in keeping with good commercial bee-keeping, and helps to build up the apiary and produce young queens.

The nadiring principle, or non-swarming chamber, is neither scientific nor natural, which has been known for many years. Usually the chamber or drawer containing the combs and bees below is not easily withdrawn, and disturbs the bees very much in the attempt. This is not so convenient as lifting off a rack of honey from above the brood nest. The space provided below is certainly an advantage in winter, but is not to be recommended for use in summer. Where queens are so prolific that the usual ten combs are not sufficient those containing honey can either be extracted and returned to the brood-chamber, or reserved for future use, or building up weaker stocks. Another plan is to give a second brood-chamber above the usual one in the early part of the season when honey is coming in, or a rack of shallow frames with worker combs, and allow the queen to deposit eggs in these, afterwards confining the queen to the lower chamber by means of excluder. There are numerous ways of controlling swarming and ventilation according to requirements, which the bee-keeper practises and understands after he has had a good practical training extending over a number of years.

To speak of the brood-chamber not requiring examination after "pre-supering arrangements had taken place" sounds like bee-keeping in its probationary stage.

Providing conditions were ideal it would be excellent and most helpful to beginners and busy men who have very little opportunity of examining stocks, but unfortunately such conditions seldom prevail in this country. If the "compromise" hive is going to reduce the chances of disease, or to a great extent eradicate it, because it is to provide comfort and plenty of fresh air, perhaps Mr. Fielden will tell bee-keepers why bees which have been kept in hives as near as possible to Nature's methods, have succumbed in large numbers to so-called "Isle of Wight" disease.

In conclusion, with reference to the commercial side of bee-keeping and its possibilities in England, it would be well to remember what our worthy Editors have so often stated, that bee-keeping as an industry run on independent lines is not to be recommended. It can be made to pay, and pay well, up to a certain stage, but do as the Editors would say, "Festina lente."—Ens Rationis.

LEGISLATION AND BEE DISEASE.

[9405] I have been much interested in the discussion that has been carried on in the columns of the British Bee Journal respecting legislation to deal with the "Isle of Wight" disease, which up to now we seem powerless to combat.

The suggestions put forward by Messrs. Pratt and Cattanach are worthy of being carefully thought out, and the result put into immediate operation, as every day's delay means more bees gone under.

If every bee-keeper who has the interest of bee-keeping at heart would help, I think we should be able to bring forward proof to show the Government that what bee-keepers of the British Isles are demanding is not contentious, but urgently demanded if the bee industry is to be saved. I think each County Association could give great assistance by canvassing each of its members, and they in their turn canvassing bee-keepers who are not members of any association.—A. H. Hanson.

[9406] May I suggest that the British B.K.A. should draw up a petition to the Board of Agriculture, a copy be sent to each county, or district, association secretary, to be submitted and voted upon at their annual meeting, who should then return it to the secretary of the British Bee-keepers' Association, whose duty it should be to forward it then to the Board of Agriculture?

I would also suggest that each expert should have a copy of the petition, and obtain the signatures of bee-keepers visited. These—or a copy—should be sent by the different secretaries to each Member of Parliament in their own county asking for their support. A copy of the signatures should also be sent to the Secretary of the B.B.K.A. to be sent to the Board of Agriculture. What Mr. Moore says (9401, January 25), is quite true, viz., that the Bee Diseases Bill was hung up owing to opposition from a small section of bee-keepers, but I do not think we should have the same amount of opposition now, as so many of that small section have found to their cost that their apiaries are not disease-proof.—Jas. Pearman.

THE LAZY (?) DRONE.

[9407] In common, I am sure, with all your readers I have perused with great delight Mr. Pike's account of "The Wonderful City." As one who taught in school for over twenty years I appreciate specially the delightful way in which Mr. Pike presents his facts to the young mind. But I am sorry to see from page 17 that he feels it necessary to perpetuate an entirely false view of the drone and his importance to the bee community. In what consists the laziness of the drone, so often dinned into our ears? Is it that he gathers no pollen, brings home no nectar, secretes no wax? A very little acquaintance with bee anatomy will convince one that he cannot do any of these things, because he is not provided with the necessary apparatus. It is unfair to call one lazy because he does not do what it is impossible for him to do. As well malign the hen because she produces no milk, or the cow because she lays no eggs. The sole purpose of the drone is to mate with the queen. To accomplish this he must fly abroad every fine day. This he does with the utmost diligence, and it is the only work for which he is fitted. Might I ask also whether Mr. Pike has actually observed the drones of *Apis mellifica* "basking in the sunshine," or perched on a flower?—J. Anderson, Aberdeen.

"THE CHAPMAN HONEY PLANT" OR THE SILVER GLOBE THISTLE.

[9408] The above is a fairly well-known plant, yet it has never attained the prominence it deserves. The 5ft. tall stems are clothed in silver leaves, and the white flower heads are silver-white. Sow the seed thinly in February or March or in July or August. Plant out in open places 4ft. to 5 ft. apart as soon as the young plants measure 3in. across. If one has sufficient, plant them as an avenue or grove along an open bit of the lawn in beds hidden by the silver-grey *Cerastium tomentosum* (Snow in Summer), or, better still, by *Sedum album* (Stonecrop or Worm Grass), one giant thistle in each

bed, or else mass them in narrow border beds, the soil of which is similarly robed in white, and then visit the spot by moonlight. It will seem as though the thistles gave out light themselves; indeed, persons have tried to prove that there is about the leaves a phosphorescent influence that makes them show up on dark nights. With sunset light upon them the plants gain a new splendour, repeating the ruddy glow as by reflection. A bank crowned with them will also be found a most interesting feature.—E. B. B.

RIVERSIDE APIARIES AND "ISLE OF WIGHT" DISEASE.

[9409] *Re* your correspondent's inquiries [9396, page 19] in BRITISH BEE JOURNAL for January 18, may I say that my own bees that visit surface water close by, and which is covered with duckweed, give me less trouble than some I look after that drink at a quickly-flowing stream.

My own bees have gone down once with "Isle of Wight" disease, and those near the river twice. My bees appear to do better than any others I hear of about here. I give abundance of ventilation and use Izal freely, and since doing this I have apparently been able to keep them free from disease.—J. MERRICK.

TOTAL VALUE OF HONEY IMPORTS FOR THE YEAR 1916.

	£
January	8,207
February	5,055
March	1,386
April	5,771
May	4,977
June	35,887
July	32,388
August	54,740
September	20,463
October	12,850
November	4,168
December	1,380
Total	187,292

The total value of honey imports for 1915 was £92,679, and for 1914 it was £57,662.

KENT BEE-KEEPERS' ASSOCIATION.

MIDLAND DIVISION.

A public lecture has been arranged to take place at the Town Hall, Maidstone, on Tuesday next, February 6, entitled "Bee-keeping for Pleasure and Profit." The lecture will be given by Mr. George Bryden, of Rochester, with the object of assisting novices and to encourage others to take up the pursuit during the coming summer.

The chair will be taken at 7.30 p.m. by the Mayor of Maidstone, G. Foster Clark, Esq., and a hearty welcome is extended to all who may be able to attend.

* Can any of our readers who live in or know the district of Hay-on-the-Wye kindly let us know if it is a good bee district?

"SUNNYSIDE" (Kent).—*Using Infected Hive.*—It will not be safe to use the hive unless it is disinfected, although it has been empty four or five years. Scorch it with a painter's lamp, or paint it out with a solution of Izal, 1 part; water, 2 parts; and place in an airy shed until it is dry, and the smell has disappeared.

J. MERRICK (Bristol).—(1 and 2) It is a matter of individual fancy. We prefer the "Lee's" section rack and two way sections. You will get as much honey from one as the other.

Length of Time in Which Honey Will Granulate.—It is impossible to say; there is so much variation not only in honey from different sources, but in different seasons and localities, and it also depends on how and where it is stored. We have known honey granulate in the combs before it was all sealed over, and other honey to keep clear for several months. Warming it will check granulation for a considerable time.

Suspected Disease.

J. WILKIE (Fife).—The bees have died from "Isle of Wight" disease.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1d. per work as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

LINCOLNSHIRE Honey, granulated, 1s. per lb., in 28lb. tins; cash.—WAIN, Thorpe Bank, Wainfleet b 3

BY APPOINTMENT

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., July 22, 1915.

IZAL AND "ISLE OF WIGHT" DISEASE.

"I had lost twenty stocks when I tried Izal with my remaining three stocks which were very badly affected . . . The bees are now in very good condition, due solely to the use of this disinfectant."

Sold Everywhere in Bottles, 6d. and 1/- each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

1916 La Bresse Pullets, near laying, 10s. pair; also large Aylesbury-Runner Cross Ducks and Drakes, good layers, 6s. each.—ARTHUR DONKIN, Nauntou, Pershore, Worcs. b 1

WANTED, W.B.C. Hive, in good condition; quote price, carriage paid.—MISS SMYTH, Colehill, Wimborne. b 2

SIX W.B.C. hanging frame section boxes, with dividers, unused, soiled, 4s. each; 100 ordinary pattern section racks, 1s. 3d. each.—"X. Y. Z.," "BEE JOURNAL" Office, 23, Bedford-street, W.C.

MEAD (15 years old) for disposal; particulars.—MEAD, "BEE JOURNAL" Office, 23, Bedford-street, Strand, W.C.

WANTED, stocks of pure Dutch and pure Italian Bees, on frames or in skeps; guaranteed healthy.—Prices and particulars to JESSE JOHNSON, Expert, Stafford. v 9

WANTED, Old Books on Bee-keeping, good condition.—Prices and particulars to JOHNSON, Expert, Stafford. v 10

BUSINESS ADVERTISEMENTS.

BOTTLES, ½lb., screw-capped, 18s. gross.—E. COANEY & CO., LTD., Dale End, Birmingham. b 4

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

COLONIAL HONEY.—LEONARD HALL & CO., 6, Rood-lane, London, E.C., Honey Importers and Packers for H.M. War Dept., the leading Stores, &c.

MESSRS. STONE & SON, LTD., Chemists, Exeter, are buyers of English Beeswax, in large or small quantities. Write, stating quantity and price required.

ENGLISH Honey wanted; state quantity and lowest price.—LEONARD HALL & CO., Honey Packers, 6, Rood-lane, London, E.C. v 6

QUEENS and NUCLEI.—Orders now being booked. English-reared Italian queens, tested, 5s. each, five for £1 1s.; 3-frame nuclei, 15s.—CLARIDGE, Copford Apiary, Colchester. v 12

ROWE,

28a, Moy Road, CARDIFF,

SELLS Pure Honeys, Colonial and Californian, &c., carriage paid, tins free; cash. Samples 3d. BUYS Home-produced **Run Honey, Sections, and Beeswax.**

SAVE MONEY this winter by making up your own hives. Particulars of wood cut ready to make up into hives will be sent free on receipt of a post card.

E. J. BURTT, Manufacturer, GLOUCESTER.

OBITUARY.

EDOUARD BERTRAND.

It is with feelings of deep sorrow and regret that we have to announce the death, at the ripe age of nearly 85 years, of M. Ed. Bertrand, one of the leading pioneers of modern bee-keeping in Switzerland.

Ed. Bertrand was born on May 16, 1832, in Geneva, where he was educated, and like many other Swiss he left his native home to make a living at the age of twenty, coming to England, where he entered the banking house of Messrs. Hambro, in London. After three years he accepted a position with a stockbroker in Paris, and remained in business until 1873, after having gone through the anxiety of the siege of Paris by the Prussians. This, and the subsequent insurrection of the Commune in 1871, during a portion of which time he had the responsibility of guarding large funds committed to his care, told seriously upon his health, from which he never entirely recovered, and, not having any children, he decided to retire from business and return to his native land. Here he purchased a property at Nyon, on the shores of Lake Leman, in view of Mont Blanc, where he could devote himself to his favourite pursuits of horticulture and arboriculture.

It was not long before he became possessed of two skeps of bees with straw caps, such as are used by the villagers, which a friend of his had offered to him, and with these he commenced bee-keeping. Having no other idea about bees than those gathered from the work of his compatriot, F. Huber, in his "Nouvelles Observations," he found the knowledge acquired not sufficient for practical bee-keeping. The first two or three years of his novitiate were passed in trials and failures without ever harvesting a single pound of honey. He tried, one after the other, hives with supers such as the Varembey, Ribeaucourt, Carey, Christ, etc.; then hives with small frames like the Berlepsch, Bauverd, Jaric, etc., always with the same unsatisfactory results. The honey flow in the neighbourhood of Nyon is of short duration, and the district is not favourable for bee-keeping, as there was only half the pasture there would be away from the lake. It was therefore important more than in other places to have strong colonies at the right time, an impossibility with the small hives he was using. Coming across the works of G. de Layens, "Elevage des Abeilles," and of C. Dadant's "Petit

THE LATE M. ED. BERTRAND.

Cours d'Apiculture," the methods there described were a revelation to him, and in 1877 for the first time he obtained a good harvest of honey from a Layens hive which he had placed in an apiary he had started in the mountains at Gryon on a small family estate. The following year he changed his hives, partly for the Layens and partly for Dadant's, and established a third apiary at Bex.

In 1880 he started another apiary at Allevays in the Jura, which we described in the BRITISH BEE JOURNAL for 1883 (page 96). Here he put up an equal number of Layens and Dadant hives for comparison. He was teaching apiculture gratuitously, and had a pupil as assistant at this apiary, which he later gave into his charge. This apiary always gave good results in spite of foul brood, which decimated it, but which, however, was stamped out. Not only its first cost of 2,500 francs (for hives, building for lodging, workshop and fences) was quickly returned by the produce, but every year a handsome profit was derived and divided equally between M. Bertrand and his assistant. Later he gave up this apiary to his assistant and also discarded the Layens hive in his home apiary, retaining the Dadant as the most suitable for profitable bee-keeping. A hive on scales here registered once an increase of over 24lbs. in 24 hours, and that in a district said to be useless for bee-keeping.

In 1876, when the Société Romande d'Apiculture was started, M. Bertrand was elected secretary, a post which he occupied for several years. On several occasions he was elected president of the Society, a post which could only be held by the same person for two years consecutively. He was also treasurer and librarian of the Society for many years. In 1879, the Society having recognised the advisability of having an organ which would place its members in communication with each other and inform them of the advances made in bee-keeping, M. Bertrand offered to edit the journal on condition that he was the sole manager, and undertook to bear all the costs. Members were supplied with the journal at the reduced rate of three francs, while the ordinary subscription was four francs. At this time the leading French journal was strenuously opposed to the new methods, and M. Bertrand had to submit to much unfavourable criticism and abuse from an Italian journal conducted by Giotto Ulivi and several of his partisans in France. However, so well was M. Bertrand's journal received that it was evident it filled a void, and at the end of two years the *Bulletin d'Apiculture pour la Suisse Romande* had sufficient subscribers to pay its cost of production, and these so rapidly increased abroad, especially in France, that it was considered advisable to change its title to *Revue Internatonale d'Apiculture*. This he carried on with the help of Madame Bertrand—who was as great an enthusiast as he was—and M. Crepieux-Jamin until 1903, when owing to failing health the journal was given up. There was no doubt that this high-class journal was the most practical and best in the French language, as it was the only one at that time which treated seriously of modern methods, and it was no wonder that it was eagerly sought after by advancing bee-keepers. It was known that M. Bertrand was not only a practical but a successful bee-keeper, and his advice could always be relied upon. Having successfully fought foul brood he was able to give such advice as has been the means of curing many diseased colonies. Being acquainted with several languages, M. Bertrand kept his readers informed of the progress being made in England, America, Italy and other countries. It was with this object in view that the "British Bee-keepers' Guide Book," "The Honey Bee," and "Wax Craft," by T. W. Cowan, were translated by him into French, as was also "Foul Brood of Bees" by F. C. Harrison.

M. Bertrand also published several practical works, such as "Routine et Méthodes Modernes, premières notions d'Apiculture," in 1882; "Description des meilleures Ruches," "Conseils et Notions à l'usage des Commençants," and in 1883 "Calendrier de l'Apiculteur." The three last were later combined in one volume entitled "Conduite du Rucher," which, after several revisions, attained its 11th edition in 1915. This is still considered the standard book in Switzerland and other countries, having been translated into seven languages. In 1891 and 1897 he published "Lettres inédites de François Huber," in 1891 "La Ruche Dadant modifiée," and in 1899 "La loque et son traitement." He also translated from the Italian Rauschenfels' "La fausse-teigne" in 1890. In 1891 the translation of Dadant's "Langstroth" was published under his supervision.

During the twenty-five years in which M. Bertrand published the *Revue Internationale d'Apiculture* he practically revolutionised bee-keeping in Switzerland and France. Old-fashioned skeps almost entirely disappeared, and rational methods were adopted. His activities did not rest there, for he gave courses of instruction from 1884 to 1887 at his own residence, where the theory and practice of rational bee-keeping were imparted, and he formed a band of disciples who spread the new methods throughout the country. We can ourselves, with a pretty good acquaintance with the country, testify to the change

that has taken place and the progress that has been made in bee-keeping during M. Bertrand's activity. Eminent scientists and practical bee-keepers of the first rank met at the hospitable residence in Nyon, and were welcomed by Madame Bertrand, who was such a helpmate to her husband, and always did her best to make their visits pleasant. It is therefore not surprising that on M. Bertrand attaining on May 16, 1912, his 80th birthday, the day was celebrated in a manner befitting the occasion, and the BRITISH BEE JOURNAL and British Bee-keepers' Association joined with the Continental bee journals and associations of bee-keepers and other friends in offering this eminent man their congratulations and best wishes.

M. Bertrand gave his time freely to instruction, and was not only the appointed lecturer on apiculture at the Government Agricultural Institute at Lausanne, but also gave lectures at Geneva, Zug and other places. He was in correspondence with bee-keepers in all countries, and with unfailing kindness answered all letters asking for advice. He was an honorary member of the B.B.K.A. and numerous other societies in Europe and America. He was frequently asked to judge at exhibitions, and at the Swiss National Exhibition held in Zurich in 1883 and other places, when we had the privilege of being members of the same juries, it was with particular satisfaction that we noticed the careful attention he gave to details and the justice with which he made his awards. The acquaintance which we made with M. Bertrand thirty-three years ago had grown into an intimate friendship, which had lasted to the day of his death. Together, frequently accompanied by Madame Bertrand, we have made many a mountain excursion, and many apiaries have we visited, and have always found him a charming companion, fond of nature, and taking an interest in the rich flora of the mountains. Our correspondence was frequent and regular, and just recently we received a letter from him, dated December 20, when he wrote in good spirits, and it was a severe shock and grief to hear of his having passed away so soon afterwards. He was taken ill towards the end of the year, and succumbed to affection of the heart and old age, passing away peacefully in his sleep on January 16. Thus we mourn a good and eminent bee-keeper, and we are sure that bee-keepers in this country will join with those on the Continent in their sympathy with Madame Bertrand in her bereavement. A devoted wife, she encouraged her husband in his work, and shared his labours on the *Journal* and in publishing his books. "Wax Craft" was translated into French by her, a work of considerable difficulty owing to its technicality, but it was satisfactorily accomplished. She also translated articles from English, American and Italian papers, and in other ways shared his literary activities. It will be some consolation for her to know of the great respect entertained for her husband, that the seed he had sown had germinated well and borne good fruit, and to feel that he was the means of doing a great and valuable work, not only for his country, but also for European bee-keeping, and that his name will be handed down to posterity as one of the eminent bee-men of the 19th century.

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad: also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Pte. F. P. Howard, Hope Villa, New Road, Ware—42nd Machine Gun Co., B.E.F., France.

KENT BEE-KEEPERS' ASSOCIATION (WESTERN DIVISION).

ANNUAL MEETING.

A SUCCESSFUL YEAR'S WORK.

The first annual meeting of the Western Division of the reorganised Kent Bee-keepers' Association (late Crayford and District B.K.A.) was held at the Public Library, Dartford, on Saturday, January 27. There was a very representative attendance, and Mr. Alfred Dewey presided. Among those present were: Mr. and Mrs. C. W. Knight and Mr. A. C. Paulin (Bexley), Mr. and Mrs. Priestley, Messrs. V. E. Shaw, W. H. Prior, Keeble, Martin (New Eltham), Major McCombie (Plumstead), Messrs. E. R. Stoneham and J. M. Bates (Crayford), Mr. F. C. Hodgson and Mrs. Myatt (Bexley Heath), Mr. H. Sharp (Bexley Heath), Mr. G. Bryden (Rochester), Mr. J. Reader (Chatham), Mr. and Mrs. Minchin, Mr. H. J. Upton and Mr. H. J. Pallant (Greenhithe), Mr. F. Lynds (Longfield), Messrs. G. H.

Barnes, J. Darby, S. Priest, W. Groves, etc. (Dartford), and the Hon. Secretary, Mr. G. W. Judge.

The minutes of the annual meeting on February 7 and of the extraordinary general meeting on October 28 last were read and confirmed.

ANNUAL REPORT.

The annual report indicated that very satisfactory progress had been made during the year as a result of the active programme which had been carried out. The report showed capital amounting to £33 19s. 11d., an amount over five times as much as recorded in any previous year, and due partly to the success of the re-stocking scheme. Of this amount £26 0s. 8d. was in cash and the balance in realisable stock. Including the re-stocking scheme and the refreshment accounts, the total receipts for the year amounted to £98 0s. 11½d., against £18 5s. 11d. for 1915. The expenses totalled £78 3s. 2d., against £17 19s. 0½d. the previous year.

The extent of the revival of interest in bee-keeping was shown by the exceptional increase in membership. During the past year no less than 97 new members had joined, representing over 100 per cent. increase. The total membership at December 31, 1916, was 180, 45 being ladies.

Since the annual meeting in February last seven lectures and demonstrations had been given at selected centres, and these were all well attended. Excluding the honey show, at which considerably over two hundred were present, the average attendance was 59.

Nine candidates presented themselves for the British Bee-keepers' Association's examination for the preliminary certificate of proficiency in bee-keeping, and all were successful; also Mr. F. C. Hodgson, of Bexley Heath, was heartily congratulated on passing the intermediate examination.

As an instance of the value of organisation, the Association was able to purchase at wholesale rates a consignment of twenty gross of honey jars. These were sold to members at cost price, and had the supply been greater many more could have been utilised.

The W.B.C. hive presented to the Association by Mr. Gee, of Dover, as a pattern for the use of members in making others of similar design, had created considerable interest, and the templets for making the various parts had been in great demand not only by members, but by bee-keepers in other parts of the country. Details can be obtained by making application to the Secretary (Mr. G. W. Judge, Barrowdene, Shepherd's Lane, Dartford).

RE-STOCKING SCHEME.

The first re-stocking scheme in this country was launched and successfully carried out by this Association during the past year. Essentially the scheme was designed to supply by organised effort bees of selected strains to members who had suffered loss through the so-called "Isle of Wight" disease. During the summer, from ten original stocks, seventy colonies were produced and distributed to subscribing members. Its necessity and value may be gauged by the fact that six other county bee-keepers' associations are taking up this scheme in its entirety, and the British Bee-keepers' Association have also adopted it as a model for recommendation to other affiliated associations.

REORGANISATION.

The four delegates to Central Council, Messrs. A. Dewey, E. D. Till, G. Bryden and G. W. Judge, who were appointed at the extraordinary general meeting on October 28, submitted their report, which showed that very satisfactory progress had been made in the expansion of the Association on a county basis. The Right Hon. Lord Harris had accepted the presidency of the reorganised Association, and the Principal of the South-Eastern Agricultural College, at Wye, M. J. R. Dunstan, Esq., M.A., had consented to act as a vice-president

This reorganisation scheme contemplated the amalgamation of the Crayford and District B.K.A. with the Mid-Kent B.K.A., and the creation of a new branch to represent the eastern area of the county to form one strong association for Kent. The branch at Wye was successfully inaugurated at a meeting held at the South-Eastern Agricultural College on December 9 last.

To consolidate the new arrangements the first meeting of the Council of delegates from the different divisions was held at the Sessions House, Maidstone, on December 30 last. Mr. A. Dewey, late president of this division, was appointed chairman of the Association for the ensuing year, and Mr. J. W. Price, the president of the Mid-Kent Association, was elected vice-chairman. Mr. Sidney Allnutt was elected hon. treasurer, and Mr. G. W. Judge hon. secretary. Messrs. Judge and Watts were appointed representatives to the Council of the British Bee-keepers' Association.

At this meeting rules were drawn up and adopted, and arrangements were made to extend the re-stocking scheme by running a breeding apiary in each of the three divisions.

By the courtesy of the treasurer, Mr. Allnutt, the manager of Martin's Bank, Limited, Dartford, a separate banking account in the name of the Association

has been opened. The report of the delegates closed by stating that the foundations of a greater Association have been successfully laid; the machinery has been created, and all that is now required is a continuance of the active co-operation and loyal support of members and bee-keepers in the county.

SOCIAL COMMITTEE.

The social side of the Association's affairs has been excellently represented by the Ladies' Social Committee. Their successful catering added considerably to the comfort and pleasure of the numerous functions of the past year. Each district is represented on this Committee (under the leadership of Mrs. Dewey), and in spite of the difficulties of war-time conditions they have greatly contributed to the success of the Association's work.

EXPERTS' REPORT.

One of the most valuable features of the Association's work is the advice and practical aid given to members by the Experts' Committee, and many expressions of appreciation of their assistance had been received.

As an indication of the progress that had been made since the epidemic of "Isle of Wight" disease in 1912-14, members are now in possession of 267 stocks, against 185 last year. As regards honey production, 4,099lbs. have been recorded, against 3,524lbs. in 1915 and 2,226lbs. in 1913. The amount produced in 1916 was 14 per cent. greater than in the previous year.

ELECTION OF OFFICERS (WESTERN DIVISION).

Messrs. A. Dewey (Wilmington) and G. Bryden (Rochester) were enthusiastically elected chairman and vice-chairman respectively. Members of the Executive Committee include Mrs. Simms, Miss Smiles, Captain C. C. Lord, R.A.M.C., Messrs. G. H. Barnes, J. M. Bates, G. Bryden, W. Heaselden, G. W. Judge (hon. secretary), C. W. Knight, A. C. Paulin, W. H. Prior, J. Reader, J. Roper, V. E. Shaw, E. R. Stoneham, F. Sykes, E. D. Till, H. J. Upton, and H. Wigley.

PRESENTATION.

The presentation of certificates to the successful candidates at the examinations made a fitting close to a thoroughly satisfactory meeting. The certificates were gained by Messrs. F. Broughton (Bexley Heath), C. F. Gee (Dover), F. C. Hodgson (Bexley Heath), O. E. Minchin (Greenhithe), A. C. Paulin (Bexley), W. H. Prior (New Eltham), E. C. Read (Gravesend), J. Reader (Chatham). The certificate gained by the late Mr. Paul, of Bexley, will be handed to Mrs. Paul.

BRYDEN CHALLENGE CUP.

The souvenir photographic design of the Bryden Challenge Cup was exhibited, but unfortunately the presentation could not be made owing to the illness of the winner, Mr. G. S. Baird, of Erith.

The original of this excellent memento was designed and executed by Mr. A. C. Paulin, and the meeting expressed its admiration of his handiwork and appreciation of his assistance.

MICRO-SLIDES OF POLLENS.

The Secretary stated that he had approached the Dartford Field Club with a view of seeking their aid in the collection and mounting of a set of micro-slides of pollens of honey-producing and other plants to be found in the district. Complete sets of slides of this description would be extremely valuable to bee-keepers and botanists alike, and he was glad to report that Mr. Priest, the secretary, on behalf of the club had offered every possible assistance. In the local press last week full directions were given regarding the precautions to be taken in the collection and mounting of specimens. Shortly it was proposed to issue a list of the chief honey-producing flowers, giving their relative honey and pollen values for the information of bee-keepers and others interested in the subject.

The co-operation of the Field Club in assisting with this work was greatly appreciated.

A hearty vote of thanks to the Library Committee and to Mr. Wood, librarian, for the use of the room brought an extremely successful meeting to a close.

(A report of the lecture on "Bee-keeping in New Zealand," by Mr. F. C. Hodgson, will be given in a later issue.)

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BRITISH BAR-FRAME HIVES AND COMMERCIAL BEE-KEEPING.

[9410] I am very pleased to see the interest taken in the discussion under the above heading, as it is only by obtaining many "practical" bee-keepers' experiences that we can hope to arrive at any definite conclusions and make headway.

I think Mr. Fielden's letter [No. 9398] shows he is a "practical" bee-keeper, and

is going on the right lines, but I think he has overlooked a few items of manipulation, which, if they do not entirely overcome the faults he points out in the W.B.C. hive, at least tend to greatly alleviate the difficulties. We must always bear in mind that what appears impossible in theory is very often quite workable in practice and *vice-versa*.

I will take his troubles in his own order.

(*a*) Ventilation :—If a 3-in. or 4-in. circular hole is cut in the floor-board towards the rear, and covered with perforated zinc, as I have in all my hives, it provides better ventilation, and I leave mine open all the year round, though if thought advisable at any time they can be closed by a shutter underneath.

Then, again, in the summer, when breeding is going on extensively, or honey coming in fast, the whole brood-box can be raised a little by sliding under the edges of sides a thin lath about ¼-in. thick (such as trellis is made of do admirably), thus giving more air-space under the whole brood chamber, and if one is worried by bees working out at the back, another piece of wood can be laid across the back as in the front over the entrance passage. I believe this plan of raising the whole brood-box was extensively used by older bee-keepers, but the plan seems to have fallen somewhat into disuse.

(*b*) Absence of control over swarming : —This is the old, old stumbling block of hundreds of bee-keepers, and I am afraid I am going to thoroughly disagree with Mr. Fielden. A hive set up on plinths and ventilated floor as above described, and properly looked after as regards room for breeding, *before it is required*, will very rarely swarm, and those that do should be marked out for re-queening. In my opinion the fault is not with the hive at all, but the whole root of it is in the method used in working the stocks, and chiefly for sections only. If extracted honey is being worked in conjunction with sections, my plan is simply to give another brood-chamber fitted with starters, if early in the season, and full sheets later, under the old one, and as this is being worked out add yet another under that, by which time the brood in the first (or original) chamber will be nearly all hatched out, and its place taken by honey.

Now, if sections only are being worked for, place the top chamber under all, next to the floor, and the honey, if not capped, will be generally carried right up into sections; if it is capped extract it first, and then place the empty combs at the bottom as described, and continue extracting all sealed honey in this way, repeating the process of additions *under* the brood-chamber.

Strong colonies treated in this manner, even if headed by very prolific queens, will very rarely swarm, and if increase is desired, it is one of the easiest ways of obtaining it without trouble, only be sure that each portion—when divided—has eggs; then it will not matter where the queen is.

(*c*) Congestion during honey flow :—I fancy some of this trouble will be eliminated by following out the above method of giving surplus chambers *under* instead of always over the brood, and I also think that the "theory and practice" remark may be applied. I believe a lot of this trouble is more imaginary than real, as it has been proved many times that the bees will store large quantities of fresnly gathered honey in the brood combs where it is partially ripened, and afterwards carried "upstairs" by the younger bees in the hive which have not yet flown. As another bit of theory, it is probable that, given a clear passage for "field" workers, pollen might be carried up into the sections if these are immediately over brood. But, apart from that, honey-carriers could go with but little obstruction up the sides of the walls, right into the supers, as the bulk of the bees are in the combs, as it is very probable they do, for are not the two outer combs in the brood-chamber invariably stored with honey first?

I quite agree with Mr. Fielden's remarks about Mr. Simmins' pattern hive, which is, no doubt, very good indeed—theoretically, almost perfect—but the cost would be absolutely prohibitive in commercial competition with foreign hive makers, on top of its few faults.

To put our trouble in a nutshell, we must have a hive which any person of ordinary intelligence can use and understand without radical alteration of our present standard of sizes. And here, I think, the ordinary W.B.C. hive, *with* plinths, properly put together and carefully painted (all those little out-of-sight places included) absolutely "fills the bill." The propolisation trouble should be practically non-existent, as it is only in summer-time that it is in evidence, and during that time the separate storeys should be vaselined at the junctions, and being moved so often, there would be but little chance to stick down anything very firmly. If it is very troublesome try re-queening with a queen of different strain, as it is well known some bees are more inclined to it than others. I have no desire to monopolise your correspondence columns on this important subject, and, after all, no doubt the W.B.C. hive does not need my poor pen to champion it, and I should welcome other more experienced apiarists' opinions. To my mind it is simply and purely a matter of initiative in

manipulation of the hive itself, as apart from excessive manipulation of the bees, which sometimes causes trouble (with a big T).

With regard to legislation for bee-keepers, we shall all welcome a practical "Apiaries Act," and if our busy Government cannot find time to consider a Bill for the purpose, I think it would go a long, long way to help fight disease if all bee-keepers were compelled to keep bees only in movable comb hives, and be registered as "bee-keepers." In this manner anyone could tell very easily how near or far his next neighbour bee-keeper was, and could find out generally if any disease were near him. After peace I think most bee-keepers wish for legislation more than anything.—F. M. CLARIDGE.

LEGISLATION AND BEE DISEASES.

[9411] Mr. Woodley appears to be as much opposed as ever to legislation, and yet he asks us to read, mark, learn and digest article [9387].

And what do we see? A strong recommendation to the Board of Agriculture to enforce notification of the disease, etc. It is really too funny.

It would be half the battle to get notification of the disease.—F. W. MOORE.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

L. W. J. DEUSS (Blantyne, Africa).—*Bulk Comb Honey.*—This is simply extracted honey with chunks of comb in it. The tins or glass jars are filled with pieces of comb cut from the extracting frames, and the spaces between filled up with extracted honey. The method is principally confined to the southern portion of the United States.

A. ROGERS (Exeter).—*Transferring Bees from Box Hive.*—When the box is becoming crowded with bees place a body box, previously filled with new frames fitted with foundation, underneath it, making the join bee-proof, so that the bees have to pass up between the new frames. When they have drawn out some of the new foundation and the queen has deposited eggs in the cells, confine her to the bottom combs by means of a queen excluder. Three weeks after doing this the bees may be cleared out of the old box by placing a super clearer under it, and it may be taken away and the comb cut out. Probably early in May will be soon enough.

Suspected Disease.

G. AKROYD (Preston).—The bees were crushed in the post, but there were symptoms of "Isle of Wight" disease.

E. M. EMPSON (Ross).—Both lots of bees were affected with "Isle of Wight" disease.

WEATHER REPORT.

WESTBOURNE.

January, 1917.

Rainfall, 1.50 in.	Minimum on grass, 13 on 29th and 30th.
Below average, 1.06 in.	Frosty nights, 18.
Heaviest fall, .33 on 7th.	Mean maximum, 38.4.
Rain fell on 12 days.	Mean minimum, 32.6.
Sunshine, 37.5 hours.	Mean temperature, 35.5.
Below average, 25.6 hours.	Below average, 2.1.
Brightest day, 28th, 5.3 hours.	Maximum barometer, 30.285 on 23rd.
Sunless days, 11.	Minimum barometer, 29.368 on 13th.
Maximum temperature, 53 on 1st.	
Minimum temperature, 21 on 30th.	

L. B. BIRKETT.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per work as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ¼*in., or* 5s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FOR SALE, a pair of diagrams, "The Anatomy and Physiology of the Honey Bee, and its Relation to Flowering Plants," drawn by the late F. R. Cheshire, mounted on linen. 30s.—BRITISH BEE JOURNAL Office, 23, Bedford-street, Strand, London, W.C.

PAINTER'S Lamp, almost new, cost 12s. 6d., 7s. 6d.; two new Wilkes' Slow Feeders, pint, 1s. 9d. each.—M. S. PAGE, Meadowside, Tonbridge. c 6

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., July 22, 1915.

IZAL AND "ISLE OF WIGHT" DISEASE.

"I had lost twenty stocks when I tried Izal with my remaining three stocks which were very badly affected . . . The bees are now in very good condition, due solely to the use of this disinfectant."

Sold Everywhere in Bottles, 6d. and 1/- each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

WANTED, about six secondhand W.B.C. Hives, must be weatherproof and serviceable.—LILWALL, Cropthorne, Kingsley-avenue, Kettering. c 5

WHAT offers for 28lb. tin of heather blend Honey and 9lb. Beeswax?—C. SMITH, Valley-terrace, Leiston, Suffolk. c 4

WANTED, drawn out Combs, in wired shallow frames, drone base preferred.—TRINDER, Edwinstowe, Newark. c 3

WANTED, dozen Queen Excluders, zinc, with border; also fifteen 28lb. tins, in good condition; also Spur Embedder, by Steele and Brodie, with brass ball.—J. YOUNGER, 29, Newmarket-road, Cambridge. c 2

TEN stocks of pure Dutch Bees, in W.B.C. hives, for sale, considered by owner (now abroad) to be immune from "Isle of Wight" disease.—Apply, MRS. HERBERT MACE, Stow Longa, Huntingdon. c 1

FOR SALE, by W. HERROD-HEMPSALL, Old Bedford-road, Luton, Ariel 3½ h.p. Motor Cycle and Side Car, in perfect condition; any trial or expert examination allowed; spares, belt, in leather case, two tubes, one cover, valve spring, back axle; all wheels fitted with Peter Union bands, back to saddle, horn, speedometer, three acetylene lamps, special luggage carrier on side car to carry two gallon can of petrol and one quart oil can, in addition to luggage, kick start, three speeds. Ridden by above, to be sold on account of medical advice; offers.

MEAD (15 years old) for disposal; particulars.—MEAD, "BEE JOURNAL" Office, 23, Bedford-street, Strand, W.C.

SIX W.B.C. hanging frame section boxes, with dividers, unused, soiled, 4s. each; 100 ordinary pattern section racks, 1s. 3d. each.—"X. Y. Z.," "BEE JOURNAL" Office, 23, Bedford-street, W.C.

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

COLONIAL HONEY.—LEONARD HALL & CO., 6, Rood-lane, London, E.C., Honey Importers and Packers for H.M. War Dept., the leading Stores, &c.

MESSRS. STONE & SON, LTD., Chemists, Exeter, are buyers of English Beeswax, in large or small quantities. Write, stating quantity and price required.

ROWE,

28a, Moy Road, CARDIFF,

SELLS Pure Honeys, Colonial and Californian, &c., carriage paid, tins free; cash. Samples 3d. BUYS Home-prodnced **Run Honey, Sections, and Beeswax.**

SAVE MONEY this winter by making up your own hives. Particulars of wood cut ready to make up into hives will be sent free on receipt of a post card.

E. J. BURTT, Manufacturer, GLOUCESTER.

SEASONABLE HINTS.

The spell of cold weather appears to be coming to an end. If snow has not been cleared off the hive roofs it is a good plan to brush it off and not allow it to thaw on the roof. No kind of moisture seem so searching as melting snow, and it will percolate through the slightest fault in the roofs on to the quilts, making them damp. If this has already happened, the damp covering should be removed and dried, or replaced with some that are dry. Some bee-keepers place a sheet of oilcloth, or other waterproof material, on the top of the other quilts, to guard against wet from the roof. It is a mistake to do this, and such material should be removed. It confines the moisture arising from the bees, and this condenses in the coverings, making them damp.

Look out for attempts of rats and mice to gain an entrance to the hives. The recent severe weather will have reduced their food supply, and it is quite possible they may have attempted to gnaw a road into the hives, especially if the apiary is near a wood.

Where the bees have eaten the candy a fresh cake should be given, and any stocks that are now likely to be coming to the end of their stores should also have a cake of candy given them. Bee-keepers will be well advised to *lay in a supply of candy now it is available*. It will keep almost indefinitely if stored in a cool, dry place, and may be made into syrup for feeding by dissolving it in hot water. To each pound of candy add ¾ pint of water for spring food and ½ pint of water for autumn feeding. This may appear to be looking a long way ahead, but a wise man does try to see a little farther than the end of his nose. The sugar for candy making is available now, but if the supply set apart for that purpose is not used very shortly, the Food Controller will probably take what is left for other purposes. There is no prospect of the sugar supply being more plentiful for some time to come. It may become less and the price be higher. Although we all hope for a good season, there is no guarantee that we shall get one, and should the bees require feeding in the autumn it will probably be impossible to get sugar for the purpose. Any appliance dealer can secure the candy for his customers if he will do so, and, if it is ordered with other goods, a saving in carriage will be effected.

There is still time to finish preparations and order goods for the coming season. We make no apology for again urging the latter item. Appliance dealers are shorthanded and railway transport is uncertain. We shall not be at all surprised if, when the weather becomes favourable for active operations at the front, railway facilities are still further curtailed.

As soon as the weather is warm enough bees will fly out in search of water. A constant supply that is kept uncontaminated by excrement or dead bees should be provided in a warm corner of the garden. There is no doubt that one of the most active agents in the spread of "Isle of Wight" disease is contaminated water, hence the importance of a supply free from taint.

Artificial pollen may be provided—also in a warm, sunny spot—by sprinkling peaflour on some shavings or wood-wool placed in a box, *and kept dry*.

A WONDERFUL CITY.

THE LIFE STORY OF THE HONEY BEE.

By Oliver G. Pike, F.Z.S., F.R.P.S.

(*Continued from page* 32.)

As we stand and look at all the attention bestowed on the mother of the hive, we feel compelled to ask the question, Does she rule the hive, or is she governed by the Workers? It seems to me that the latter is nearer the truth. Are the ladies-in-waiting certain members of this vast community of thousands of workers whose duty it is to urge the Queen on to lay? She cannot keep on without rest of some kind; it is impossible for Nature to continue work without some rest. Other insects have their time of repose; even flowers and trees have their seasons of rest; then why not this noble insect which is the mother of this marvellous waxen City? But still it seems to us, as we gaze on this insect Queen, that the Workers try to make her work continually without ceasing. Watch her as she is laying. The attendants are not over-eager as they cluster round, but should she cease, and attempt to rest, they crowd round her more excitedly, her body is licked and stroked more energetically, and they seem as if they were urging on their mother still to lay the needed eggs. I have sometimes seen the Queen quite motionless, with all the attendants eagerly trying to push or drive her on to her duty. Is she asleep? I have on such an occasion gently tapped the glass side of the hive. A loud, excited hum passes through the crowd of bees, each one raises its wings and prepares to meet an enemy, but still the Queen is motionless. I tap again, louder, and another angry sound passes through the hive, but there is not yet any sign of movement by the Queen of the City. Her attendants are excited, they press on to her from all sides, but, on

my giving a third tap, the Queen is startled as though awakened from deep sleep, and, like a naughty child that has been caught napping, she runs forward, hurriedly glances into the nearest cells, finds an empty one in a surprisingly short space of time, deposits an egg in it, then rapidly passes on to other empty cells, and lays an egg in each, seeming as though she were endeavouring to make up for time that was lost in slumber.

They are not always the same bees which wait upon the Queen. While laying she will often run forward, outstrip those around her, and instantly another little group of workers will gather around her as she again commences to lay. In the autumn months, when the Queen only lays a few eggs daily, she will have very few bees around her in attendance; sometimes we cannot detect any, she stands alone, and if an egg is laid a worker will offer her food, and perhaps one or two others will lick her body and wings, then when she is motionless again these move away. When the honey has ceased to come in no more young bees are required, and the Workers cease to stimulate their Queen to lay, and in consequence much less attention is bestowed upon her. But let the bee-keeper supply the bees with small quantities of sugar and water mixed in the form of a thick syrup, then the Workers, knowing that food is coming in once more, surround their Queen and urge her to lay. These constant attentions are not without their reward, for she soon commences to deposit eggs in the empty cells for as long as the supply is continued. Thus it seems as if the bees command their Queen.

Three days after the egg is laid it hatches; a tiny grub then appears. This is of a pure white colour. It lies at the bottom of the cell, curled round, and is at once fed by the nurse bees with a food which is a mixture of honey, pollen and water. Its growth is rapid, and its food supply is kept exactly to its wants; that is, the larva is given all the food necessary for its full nourishment, but not a tiny drop more. As it grows, the base of the cell is not large enough to hold it in its curved position, so it gradually assumes an upright posture. It looks a curious creature at this stage, with its fat, white body, and smooth head, furnished with two small projecting horns, which will develop into the future antennæ. The jaws are small, and just below them is a fleshy protuberance through which the grub emits a sticky fluid which forms into a kind of silk. With this the larva spins a cocoon, and when enveloped in this many other wonderful changes take place. About thirty-six hours are occupied in making this silken cradle, and as soon as the grub begins this work, a Worker or nurse bee comes forward and seals over the top of the cell with a brown substance composed of wax and propolis, but taking the precaution of leaving a few minute holes which allow air to enter. These coverings over the Worker cells are very slightly convex, but the Drone cells are provided with a larger top, which is almost hemispherical. When the cocoon is first made the grub is white and semi-transparent. As the hours go by marvellous changes take place; the various organs of the perfect insect become more and more prominent. The eyes gradually assume their structure, and the antennæ seem to slowly grow. The legs and wings appear, and lie folded lengthwise along the thorax and abdomen. The covering of the body becomes stronger and harder, and the colour changes to a greyish brown. The great wizard—Nature—is at work; she waves her wand, as it were, and one of those wonderfully marvellous changes take place that makes the unseen world of Nature a home of the deepest mystery. Twenty-one days have elapsed since the Queen laid the egg, and now the little prisoner in its cell knows that it is time to leave. With its powerful jaws it makes a small hole in the capping of its cell, then slowly nibbles round the edge. When the top is completely eaten round, the prisoner gives a push with its head and knocks the top off; then we see the insect's head as it again nibbles round the edge of the cell, for the hole is not quite large enough. At last the insect's head is out, and by placing its front legs on the surrounding walls, and using these as levers, the rest is easy, and a minute or two later it stands outside as a perfect insect. The first duty seems to be to smooth its antennæ and stroke its wings, and while doing this a nurse bee comes forward and gives the new-comer a "brush-down," that is, she licks its body and wings, and afterwards the young bee goes off in search of food, and takes a good meal of honey and pollen. The metamorphosis of the Drone and Queen is very similar to that of the Worker just described, the difference being that the Drone takes twenty-four days to reach maturity, and the Queen only takes sixteen.

A few minutes after leaving the cell the young bee commences its duties, and goes through them as perfectly as though it had had a long apprenticeship. It first takes up its duties as a nurse, and about a week later undertakes the more arduous occupation of gathering honey and pollen. The nurse bees have many duties to perform in looking after the grubs, and attending to the young when they leave the cells. In addition to this, thousands of them are to be seen standing on the covered cells containing the sleeping nymphs, beating their wings in unison,

calling, as it were, their buried sisters to life and energy. Why do they thus beat their wings up and down? It may be to generate the heat of the hive, but there is certainly another object besides this. It is probably to circulate the air amongst the cells, or to drive it through the minute holes left in the cell cappings. Then others continually perform most mysterious dances over the capped cells. Their limbs are shaken rapidly from side to side, and they twist quickly round. I do not believe that any naturalist has been able to fathom the cause of this strange dance, but it is the young bees that perform it, before they undertake the duties outside the hive.

(To be continued.)

JOTTINGS AND QUIBBLINGS.

Legislation [page 14].—Under the above head I propose to give some of the reasons as they appear to me why "we" who wish it think "State aid" to combat bee diseases is overdue, and, if possible, to soften and broaden the views of opponents as they appear. Mr. Kettle, in his otherwise very interesting "yarn," adopts a veiled, but nevertheless sinister, attitude to the discussion, on the ground that relative Government experts are neglectful and of no use; he, however, qualifies this as meaning to himself.

Of course, it is unfortunate and incidental that labour is scarce, but is the remedy and advice given so very ridiculous, considering the risk involved? I don't know whether he means by his allusion to a Socialist regime we might from it expect more efficient service. We should still require landholders, and inspectors of all forms of labour; this fails to tell us who is to have these jobs, or why others should be content to remain at a low level. I believe we country folk would manage, if they left us alone, but the cities produce more than we can all consume. We are prone to agree with these inspector fellows while they confine their energies to our weights, milk, and what not; but when they touch our living, or invade, to prevent disease of stock, not generally understood by the majority of workers through lack of time to study these things, then *look out*.

And even when these are labours of love—as, for instance, S.P.C.s, both animal and children—the hand of the State has to step in, where we should least expect it. I will close my remarks to him by asking what, if his holding is suddenly attacked, happens to an ignorant holder, who has never heard of disease, until too late, and these may be many before long.

Notes [page 30].—I remember Mr. Wordley as an opponent one must respect, but I fail to see why this should prove a "mesh" to catch the unwary. We, certainly, if successful, mean to cure the careless. I prefer to see in it a code of honour, whose compact it would not be necessary to always meet with a "scientific armoury," but by the strength of experience and the optional use: I say "optional," because any abuse by a public servant can be generally remedied. If the bee-wise are able to keep their bees healthy, so much the better for them and the State; it is cheaper and saves time. They will, however, know that some effort is being made to help the less-informed, and the concentration of many minds will undoubtedly be the means of saving many a stock through the trial of such remedies and precautions as come up from time to time, especially in the case of foul brood—but of which we as yet have no power to ensure even a fair trial, and even "welshers" will have to toe the line, with a clean rig-out, which will probably keep many a stray swarm in bounds.

Hives and Commercial Bee-Keeping.—This seems to be rather confusing the result wished for, the external arrangement really matters little. I do believe in the overlap, with small fillet inside, known as "telescopic," as they are watertight; but the inner box, if interchangeable, as in the W.B.C., wants beating as yet.

Porches are superficial, but prevent a lot of loss on wet, cold mornings, when the alighting boards are soaked before the sun becomes strong, or in showery weather, there are plenty of hives where the porches are hooked on to the hive front. Single walls, if thicker, cramp the supers so much that it is difficult to keep an even temperature, and the few extra inches of material, considering weather resistance, is more than amply balanced. If a dealer wants to capture a trade, surely he can do it with a design that will win its own reward.—A. H. Hamshar.

WINTERING EXPERIMENTS.

W. J. Sheppard, Nelson, B.C.

I am trying two experiments in wintering here this year. There are eight ten-frame doubled-walled hives. They were all strong when packed up for winter, well provided with stores, and have young queens. On five of them I have placed a double-screen wire super clearer, of the pattern we use here, immediately over the frames, which provides a bee-space clear over them. On this are placed porous coverings consisting of canvas bags filled with dry sawdust, making a thickness of about 4ins. The metal top cover over all has a small ventilation hole at each end, and is of the deep telescope pattern.

Four of the five hives have entrances 3ins. by ⅜in., and the other the full width of hive by ⅜in. In the three remaining hives the bees are being wintered in two deep bodies on two sets of combs, six above and six below, with porous coverings consisting of woollen blanket, but no screen wire. The stored combs are at the top. The hives in this territory that were wintered on two sets of deep combs (Langstroth) last year were found to be in the best condition in the spring, hence this extended trial. The hives have been nearly covered with snow since the middle of November, and will probably remain so until the middle of next March. The last flight the bees had was on October 27. In previous winters we have always been troubled by the snow getting in at the entrances. A slight thaw would sometimes come, followed by frost, which would freeze them up solid with ice. This meant suffocation for the bees unless the ice was removed, and this caused undue disturbance. To get over the difficulty this winter I cut some pieces of board the same length as the width of the hive, and about 7½ins. wide. A cross piece is nailed at the ends for closing them up when in position. The device rests on the alighting board slanting up against the hive, the top being bevelled to make it fit close. This protects the entrance completely, the snow being now piled up over it. The front is left open right along with a depth of ⅛in., which makes a second entrance about 7ins. in advance of the first. The bees keep the inner one clear of dead bees themselves. They bring them right out of the hive on to the covered-in space on the alighting board. The outer entrance can easily be kept clear without disturbing the bees. The arrangement keeps the sun from shining on the inner entrance, which is also a good thing. The bees are all Golden Italians.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE BRITISH BAR-FRAME HIVE AND COMMERCIAL BEE-KEEPING.

[9412] With regard to the Conqueror hive, I can quite understand its being too expensive for general use, otherwise I find from some years' experience that its advantages very much outweigh its few disadvantages, in this locality at any rate. I seldom have any swarms, Dutch bees being the only ones so far that have defied the good effects of the non-swarming chamber, and then only on one occasion. At the same time, I am sure much depends on careful and timely manipulation, a really good strain of bees, and, more important still, upon young, vigorous queens. Like "R.F.S.," I have, upon occasion, found the bees build combs in the ¼-in. spaces between the frame boxes, but this has invariably been caused by a warped top or bottom bar, by reason of some latent defect in the wood. Probably this, or some similar defect, is the cause in every case.—C. L. N. PEARSON.

[9413] This should be a very useful discussion if bee-keepers taking part would state number of hives they keep and years they have been at it; we might then know what weight to put to their remarks.

I keep seventeen stocks now, and have kept them for seven years in Ireland, and 20 years before I kept bees for three years in Surrey; have used W.B.C., C.D.B. and Ford-Wells' hives.

From a commercial point of view:—

1st. *Time* is an important item.

2nd. All parts must be interchangeable.

3rd. Timber must cut without waste.

4th. Work mostly for run honey, not sections.

With regard to—

1st. Wiring frames takes a long time for fifty hives; the standard commercial frame *must*, but shallow frames need not, be wired.

2nd. Another reason for using only shallow frames, all inner chambers would be the same size.

3rd. To reduce expense; but I have not yet worked this out.

4th. Sections do not keep well, and get broken travelling; they take time putting together and cleaning for sale; also one gets a good many unfinished ones, which have to be extracted and kept for next season.

Run honey can be held over from a plentiful season, to keep a regular supply to customers in a bad one. The season's

honey can be mixed and blended, giving customers a regular standard article. Personally I get a better price for run honey than for sections.

My suggestion for a hive for an outapiary is:—

(*a*) Floor-board with pieces raised $\frac{3}{8}$ in. at back and sides, and another piece across the front to rest on the side pieces; this makes the entrance $\frac{3}{8}$ in. the whole width of the front.

(*b*) Outer case after the W.B.C. pattern, $\frac{3}{4}$ in. between it and inner chambers.

(*c*) Roof sloping from front to back, not ridged (can be used to stand things on).

(*d*) Inner chambers to take shallow frames which can be tiered up as high as needful; the bees to have three or four chambers for brood nest, queen excluder on top, then shallow frame chambers for supers; a chamber with frames fitted with starters can be placed under to stop swarming if required.

(*e*) Inner chamber to take eleven frames and no dummy; this will make it square. I find by placing the first north and south, the second east and west, and so on, in tiering up the chambers, they are easier to get apart.

(*f*) Sloping alighting board, sanded, while paint is wet, to give bees good hold on windy days.

The $\frac{3}{4}$-in. space is to allow room for fingers in working on windy days, putting on supers, etc.; this is not essential; $\frac{1}{4}$ in. would do.

Will readers please criticise above from the commercial point of view, for, say, 50 hives.

This hive would be something like the Headon hive.

My objection to Mr. Dudley W. Fielden's hive is that I prefer entrance in floor so that all outer cases are interchangeable; having a space between chambers allows bees outside, which I have found means more stings; he also uses two different-sized frames, and queen could go from top to bottom, which she would do without a good deal of manipulation, which takes time.—HERBERT QUINTON, Sligo.

[9414] I have had good results with "Conqueror" hives, but what I found to be the worst fault is that the frames, being placed parallel to the entrance, and the sections, being, as I have always found, built together with combs across the $\frac{1}{4}$in. space, in a flow of honey, when any one of the sections containing frames is drawn back for removal, the frames are pulled together and an awful mess is made, the bees are upset, and so is the bee-keeper. It will be found a great help in operating with supers in a "Conqueror" hive if the back board is placed on its side at back of hive, thus covering the back space halfway up. This prevents direct flight at one's legs.

The idea of resting the supers on small pieces of wood $\frac{1}{4}$in. thick fixed to the bottom corners has occurred to me, but my idea was round-headed screws, and I have used Simmins' supers on W.B.C. hives in this way. It obviates one of the worst points in all sections, the sides of which are the exact depth of the frames, which is the difficulty of laying them down without killing bees.

Personally, I believe that the hive with an inner and outer case in separate parts is almost a necessity in this climate. Bees in a tree are high up in the air, where they must be soon dry again, even if they ever get damp, whereas it is necessary for physical reasons to keep the brood nest of a tiering hive close to the ground. Even then one gets them too high often when piling up supers. I repeat what I wrote last week, that damp is the worst enemy to bees in this country, and the space between the outer case, which meets the weather, and the inner, that is next the bees, is of the greatest importance possible. A sound roof is equally important—if possible, more so.

With regard to Nos. 9405 and 9406 (page 35), it is necessary to prove that those in favour of legislation *are* a majority, and also to bear in mind that it is far from certain that the majority of bee-keepers belong to associations at all.—R. B. MANLEY.

CO-OPERATION AND RE-STOCKING.

[9415] Will you allow me a small space in your valuable journal *re* "Isle of Wight" disease? I have been much interested in the two Bee-keepers' Associations advocating re-stocking those that have lost their bees by the "Isle of Wight" disease. It is just the very plan I have wished for, since there seems to be no cure at present.

About five years ago I noticed a few crawlers for the first time, and then they began to gather in little bunches outside the hives, with the result that they died off in the winter or in spring. I have tried the sulphur cure, and burnt all inside contents of hives, and wax, had new boxes and frames, and I got bees from different parts of England. Got up to about eight stocks and thought I was clear, but it

came again and left me with two only. They have swarmed and given me a nice little lot of honey. Now the disease is visiting me again, one lot gone already, but still I am so fond of my bees that I shall want more if I can find money to get them, because bees in the garden is my greatest hobby. I am close on seventy years of age, the only bee-keeper left in our district. We all caught the bee fever, started an association, had local shows at different places, with myself chairman, and I am now the only one left to carry on.

Now, Sir, to my mind, amongst the great body of bee-keepers I think there should be co-operation, and we should distribute bees at a reasonable price to those unfortunate bee-keepers that are so anxious to carry on. There is certainly one society come to my way of thinking —the Leicester Association. I should like to be put in touch with the secretary, as I started life in Leicester with the late Thomas Cook, in Granby Street, and a reader of this journal very nearly thirty years. You will please excuse these few remarks. It would make your paper much more interesting if more would co-operate. I was the first to start our "Co-op." forty years ago, and now it has grown into its thousands, and very near its tens of thousands, for the benefit of all.—JOHN NEALE.

[The secretary of the Leicestershire B.K.A. is Mr. J. Waterfield, Kibworth, Leicester.]

We admire the way so many of our veteran bee-keepers "carry on," even after losing their bees time and again through disease. We trust Mr. Neale's example will be an encouragement to his friends, and that he will soon have other bee-keepers near him.—EDS.]

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

[9416] "Isle of Wight" disease first entered my apiaries in the spring of 1915, or, rather, it was then that I first noticed "crawlers" and other well-known symptoms, and stocks began to die off (previous to this I had nearly 60 stocks), but I feel quite convinced that bees had been "sickening" for this disease for at least the past four or five years, as during that time they certainly did not show the vim they used to years ago. I treated with "Ayles cure," and Izal, also used the blow-lamp generously, but none of it did any good, and I had only five stocks left to pack up for the winter; these were dead before the spring of 1916; all the other bees in the district were dead before mine. Well, this left me not only beeless, but hopeless too, having quite made up my mind that it would be impossible to keep bees alive for several years to come, but when the sun began to shine I found that I missed more than anything the hum of the bees, so I sent to Mr. Bee-Mason for one of his Dutch swarms, but only one of the smallest, a 3-lb. one, as I had no confidence that it would be a success, but, to my happy surprise, they went ahead, and did wonders. I soon had them boiling over on eleven combs, and, procuring another Dutch queen, I divided them, and now they are two splendid stocks, so that has been a good investment.

Now I have something still more interesting to tell you. Last September a friend came and told me that there was an apiary in a very flourishing condition about 12 miles away, so of course I was very soon there, and, to my surprise, I found what I had almost given up hope of seeing again—a really healthy, flourishing apiary. It is years since I saw such bees; their strength and vigour and the work they had done were marvellous, there were over 20 stocks. My friend and I were successful in buying 14 of them, and though I have watched them very carefully every day since, I have seen no signs of disease, and a peep under the quilts the other day shows them still all right; these bees have sent my hopes up very high, because while this apiary has remained quite healthy all the bees around have died with "Isle of Wight" disease; so though I do not believe in the immune bee, I do think that our greatest hope lies in some bees having more than ordinary powers of resistance, and I strongly suspect that this is the secret of more stocks being cured now, as it seems only reasonable to suppose that bees which have lived through the last few seasons must be stronger than were those that have succumbed to the disease.

The British Bar-Frame Hive.—I am much interested in the letters on hives. I think that whether bees are kept for pleasure or profit it pays over and over again to spend a little extra money and have a really good hive. Personally, I make my own, and spare neither money nor trouble to have the best article possible; and, apart from knowing that the bees are properly housed, taking an average for a number of years, it is actually cheaper; I don't see that the kind of hive matters so much, all the well-known patterns are excellent. I have tried, I think, all of them, and several that are not well known, and, personally, I prefer the telescopic pattern taking from 11 to 13 frames; but, after over 20 years' experience, I say whatever pattern hive is adopted, get a hive that is well built of the best material, and that will keep the wet out.—W. ROBERTS.

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

WHY, WHEN "FANNING," DOES A BEE NOT FLY?

[9056] Could you give me an explanation why the action of the bee's wings when fanning does not cause the bee to fly? Why should it remain stationary? When watching "fanning" bees, it makes me almost giddy with expectancy to see them rise in the air, yet there they remain, as if glued to the floor-board, with the wings apparently in full "flight." One would imagine the action of the wings in fanning would "lift" the bee into the air. There *is* an explanation, of course. Can you favour me?—A. STEVEN.

REPLY.—The explanation will be found in the "Honey Bee," page 40 (control of wings); pages 42 and 43 (displacing centre of gravity); page 44 (filling tracheæ when preparing for flight). Young bees do not fly for some days, although they can, and do, move their wings, page 45 (altering specific gravity); page 54 (use of air sacs); page 86 (closing tracheæ and spiracles). From these you can gather that a bee can prevent flight at will by preventing air passing through the spiracles to the air sacs, can change specific gravity, and so prevent her flight.

LIQUEFYING HONEY GRANULATED IN COMBS.

[9057] Would you kindly tell me the best way to liquefy the honey in brood combs that has become granulated, so that it can be extracted in order to use the combs again?—C. H. DYCK.

REPLY.—The following method is given in "The A.B.C. and X.Y.Z. of Bee Culture":—Uncap and place all such combs in the extractor, throwing out any portion of the honey that remains liquid. Next lay the combs on the bottom of a wash boiler, and from an elevated dipper pour water slowly into the cells. Turn the comb over and treat the other side in the same way. As fast as the combs are splashed with water, place them in a hive or super. After all have been doused, set them over strong colonies. The bees, by aid of the water, liquefy the whole mass, clean the combs, and save both combs and honey.

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

V. HUTCHINSON (Yorks.).—*Medicating Honey for Bee Food with Bacterol.*—Use one teaspoonful of Bacterol to each pound of honey.

MISS BARKER (Lancs.).—*Medicating Syrup with Izal.*—The proportions are one teaspoonful of Izal to 16lb. of sugar.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per work as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 5s. *per* ¼in., *or* 5s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

BEES wanted, in skeps or in frames; guaranteed healthy.—DYCHE, Flackwell Heath, Bucks. c 9

FOR SALE, a pair of diagrams, "The Anatomy and Physiology of the Honey Bee, and its Relation to Flowering Plants," drawn by the late F. R. Cheshire, mounted on linen, 30s.—BRITISH BEE JOURNAL Office, 23, Bedford-street, Strand, London, W.C.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., July 22, 1915.

IZAL AND "ISLE OF WIGHT" DISEASE.

"I had lost twenty stocks when I tried Izal with my remaining three stocks which were very badly affected . . . The bees are now in very good condition, due solely to the use of this disinfectant."

Sold Everywhere in Bottles, 6d. and 1/- each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

WHAT offers?—47lb. pure Beeswax (new), on rail; cash with order.—EDGAR CAFF, Hillcoose, Grampound-road, Cornwall. c 7

WANTED, Extractor, geared Cowan preferred, with cover; also Honey Ripener and Strainer; must be reasonable and good condition, for cash.—NICHOLSON, 34, Ash-grove, Norwich. c 8

SIX W.B.C. hanging frame section boxes, with dividers, unused, soiled, 4s. each; 50 ordinary pattern section racks, 1s. 3d. each.—"X. Y. Z.," "BEE JOURNAL" Office, 23, Bedford-street, W.C.

WANTED, drawn out Combs, in wired shallow frames, drone base preferred.—TRINDER, Edwinstowe, Newark. c 3

WANTED, dozen Queen Excluders, zinc, with border; also fifteen 28lb. tins, in good condition; also Spur Embedder, by Steele and Brodie, with brass ball.—J. YOUNGER, 29, Newmarket-road, Cambridge. c 2

FOR SALE, by W. HERROD-HEMPSALL, Old Bedford-road, Luton, Ariel 3½ h.p. Motor Cycle and Side Car, in perfect condition; any trial or expert examination allowed; spares, belt, in leather case, two tubes, one cover, valve spring, back axle; all wheels fitted with Peter Union bands, back to saddle, horn, speedometer, three acetylene lamps, special luggage carrier on side car to carry two gallon can of petrol and one quart oil can, in addition to luggage, kick start, three speeds. Ridden by above, to be sold on account of medical advice; offers.

MEAD (15 years old) for disposal; particulars.—MEAD, "BEE JOURNAL" Office, 23, Bedford-street, Strand, W.C.

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

COLONIAL HONEY.—LEONARD HALL & CO., 6, Rood-lane, London, E.C., Honey Importers and Packers for H.M. War Dept., the leading Stores, &c.

MESSRS. STONE & SON, LTD., Chemists, Exeter, are buyers of English Beeswax, in large or small quantities. Write, stating quantity and price required.

1 OR 2 CWT. of clear or granulated Honey required, in bulk or already bottled.—DOLLIS PARK DAIRY, Church End, Finchley. a 1

ROWE,

28a, Moy Road, CARDIFF,

SELLS Pure Honeys, Colonial and Californian, &c., carriage paid, tins free; cash. Samples 3d. BUYS Home-produced Run Honey, Sections, and Beeswax.

SAVE MONEY this winter by making up your own hives. Particulars of wood cut ready to make up into hives will be sent free on receipt of a post card.

E. J. BURTT, Manufacturer, GLOUCESTER.

"THE VALUE OF EFFORT."

We have many times noticed the exaggerations and inaccuracies in articles and paragraphs that appear now and again in various weekly papers and magazines. The writers evidently know nothing of bees, or bee-keeping, except what smattering they pick up from old bee books, or from a casual conversation with some old cottage bee-keeper, who has a firm belief in the old superstitions relating to bees that were held by bee-men of a bygone age. What these writers can do in the way of writing a paragraph or article about bees that is full of—to put it mildly—mis-statements and inaccuracies is surprising. We found a gem in the *Sunday Companion* of February 10 last, with the heading given above. What the value of the writer's effort is we leave our readers to judge. It certainly serves to point a moral, and may amuse our readers.

"THE VALUE OF EFFORT.

"A bee-keeper told me the story of a hive—how when the little bee is in the first stage, it is put into a hexagonal cell, and honey enough is stored there for its use until it reaches maturity. The honey is sealed with a capsule of wax, and when the tiny bee has fed itself on the honey and exhausted the supply, the time has come for it to emerge into the open. But, oh, the wrestle, the tussle, the straining to get through that wax. It is the strait gate for the bee, so strait that in the agony of exit the bee rubs off the membrane that hid his wings, and on the other side it is able to fly. Once a moth got into the hive and fed on the wax capsules, and the bees got out without any strain or trouble. But they could not fly, and the other bees stung them to death. Are you congratulating yourself on having an easy time? No hardness, no difficulties, no cross? Beware, lest, like the bees, you lose your wing-power and perish miserably in the dust."

BRITISH BEE-KEEPERS' ASSOCIATION.

The Monthly Meeting of the Council was held at 23, Bedford Street, Strand, London, W.C., on Thursday, February 15, 1917. Mr. W. F. Reid presided. There were also present: Messrs. T. Bevan, G. S. Faunch, G. Bryden, J. Smallwood, G. R. Alder, J. Herrod-Hempsall, G. W. Judge; Association representatives: G. Horscroft (Essex), E. Ff. Ball (Bucks), and the Secretary, W. Herrod-Hempsall.

Letters of regret at inability to attend were read from Miss M. D. Sillar, Messrs. T. W. Cowan, C. L. M. Eales, A. G. Pugh, A. Richards, and Sir Ernest Spencer.

The minutes of the Council Meeting held on January 18, 1917, were read and confirmed.

The following new members were elected: Miss F. B. Paterson, Rev. L. W. Mylrea, Mr. A. H. Libbitt, and Mr. A. Rowe.

The following representatives were nominated and accepted: T. Garnett (Sheffield), A. R. Moreton (Worcestershire), F. Gravil (Glamorgan), Rev. F. H. Fowler (Gloucestershire), and P. A. Cragg (Middlesex).

The New Forest Bee-Keepers' Association applied for affiliation, and it was resolved to accept the same upon the usual conditions being observed.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank in January amounted to £30 2s. 4d., payments amounting to £7 3s. 9d. were recommended. The bank balance at the end of January was £125 18s. 8d.

The Final Examination was fixed for May 25 and 26.

Letters were read from the Chairman of the Leicestershire Association and the Secretary of the Peterboro' Association, and the Secretary was instructed to deal with same.

Next meeting of Council, March 15, at 23, Bedford Street, Strand, W.C.

GLAMORGANSHIRE BEE-KEEPERS' ASSOCIATION.

ANNUAL REPORT.

The annual general meeting was held at 5, High Street, Cardiff, on February 10, 1917, D. T. Alexander, Esq., J.P., in the chair. The attendance included W. Meyler Thomas, Esq., J.P., Rev. W. Richards (former Secretary of the Association) and Mrs. Richards, A. F. Hill, Esq., W. Dyche, Esq., B.A., Mr. and Mrs. Gunter, Mr. and Miss Kinghorn, Messrs. Workman, Wm. Morgan, C. Spiller, R. J. Edwards, H. Edmunds, J. O. Jones, R. James (Penarth), D. Hardcastle, etc., etc.

The Secretary made apologies for absence on behalf of Rev. H. Morgan and Messrs. F. Gravil and E. Boobier.

The Chairman proposed a vote of

condolence and sympathy with Mr. Dyche (Chairman of the Executive Committee) in the sad loss of his only son, Lieut. John Dyche, of the Royal Welsh Fusiliers, who fell in Mesopotamia in the service of his country, January 28, 1917 (Dulce et decorum est pro patria mori).

The Chairman moved the adoption of the reports and statement of accounts, and assured the members that he was in entire sympathy with the interest of the Association, and acknowledged that the bee industry claimed our assistance and every encouragement. He quoted figures giving the value of honey imports for 1914, 15 and 16, and appealed to bee-keepers to do their utmost in preventing money thus going out of the country.

W. Meyler Thomas, Esq., J.P., seconded the adoption of the report, and congratulated the Association on the successful work done during the past season. He mentioned particularly the satisfactory way in which the local expert in his district (Mr. Wm. Morgan, Llantrisant) carried out his duties. The example of the local experts coming forward and giving their services free under adverse circumstances—the discontinuance of the grant from the County Council, the war, and "Isle of Wight" disease—was deserving of all praise. It inspired enthusiasm among bee-keepers throughout the county, and gave a stimulus to the production of honey. (As a member of the Central Chamber of Agriculture his committee had advocated Legislation in dealing with "Isle of Wight" disease.)

The report was unanimously adopted, and Mr. A. F. Hill proposed, and Mr. R. J. Edwards seconded, that a hearty vote of thanks be given to the officers for their services during the past year.

On the proposition of the Chairman the Right Hon. the Earl of Plymouth, P.C., was re-elected President. Mr. John Jenkins, chartered accountant, was re-elected Auditor; Mr. Foeman Gravil (Cardiff), Treasurer; Mr. W. J. Wiltshire (Cardiff), Secretary.

A committee was elected, and Messrs. W. Meyler Thomas and F. Gravil were elected representatives on the Council of the B.B.K.A., and Rev. H. Morgan representative on the Glamorgan Chamber of Agriculture.

Mr. D. Hardcastle gave an interesting and instructive address on "Experiences with Diseases," and moved that the Executive Committee be instructed to consider the re-stocking scheme recommended by the B.B.K.A., and carried out so successfully by the Kent (West Div.) in 1915-16, with a view to its adoption in this county. Mr. Gunter seconded this proposition, and it was passed.

A discussion followed the address, for which a hearty vote of thanks was accorded Mr. Hardcastle.

Mr. Dyche proposed, and a hearty vote of thanks was passed to the Chairman for the very genial way in which he had presided over the meeting. In returning thanks, the Chairman generously invited all present to partake of tea provided at "Queen's Cafe."

W. J. W.

KENT BEE-KEEPERS' ASSOCIATION (Western Division).

BEE-KEEPING IN NEW ZEALAND.

Lecture by Mr. F. C. Hodgson.

The business proceedings reported in the "B.B.J." of February 8 were preceded by a lecture delivered by Mr. F. C. Hodgson on "Bee-Keeping in New Zealand." The lecturer drew attention to the fact that although so much was heard of New Zealand honey, the Dominion was perhaps the youngest of the honey-producing countries of the world. The first honey-bees, two colonies of "blacks," were imported from England in 1839. Though prior to the introduction of steam traffic to New Zealand, these colonies survived the journey in two straw skeps. An interesting problem in shipping bees had thus been solved, and the lecturer regretted that precise information was not obtainable as to the expedients adopted in dealing with the climatic changes involved in a voyage of such length and duration under the conditions then prevailing. Other black bees were imported in subsequent years, and the first Italian bees (yellow varieties) were introduced successfully in 1880.

The bees were found to be well suited to the climate and increased rapidly until 1880, when disease (foul brood) made its dread appearance. By 1900 it had spread throughout the colony. Only in 1907 was it successfully attacked. As the result of earnest representations made by bee-keepers an "Apiaries Act" was passed appointing district inspectors with powers of destruction, or of treatment, in any case of foul brood or other disease. The text of the Act appeared in the BRITISH BEE JOURNAL on January 25 last.

Mr. Hodgson pointed out that the New Zealand Government, like other Governments with which we have been familiar, only acted when it was made to act. Thus in regard to the undoubtedly excellent "Apiaries Act" referred to, it was the bee-keepers themselves who forced the formation and passage of this Act: the foundation of a thriving industry in the Dominion.

New Zealand, said the lecturer, by

geographical position and configuration, possessed a great range of climate. In the north it might be considered almost tropical, while in the south it was as rigorous as any part of Scotland. Therefore, while he had a good idea of bee-keeping in other parts of New Zealand, his remarks were applied to the province of Hawkes Bay, where he had himself kept bees and visited apiaries.

Speaking generally he did not consider bee-keeping, as viewed by him, to be more perfectly carried on than in England. Beyond the incident of the Apiaries Act those apiaries visited by him were scarcely model in their management. Good honey yields were obtained because the district was one which carried a deal of fruit, principally peaches, one orchard containing ninety miles of peach trees, and being well supplied with artesian water did not suffer much from drought.

The main flow was from fruit, with a later flow from clover. The winter, being mild, presented difficulties: the bees were almost continually flying and needed a considerable amount of stores to prevent starvation.

The bees mainly kept were Italians, more or less pure, and hybrids.

The lecturer quoted some figures relative to the year 1914, which showed the average number of colonies possessed by each bee-keeper to be six, averaging a yield of 18 lbs. of honey per hive. Considered beside the average, as shown by the figures of the Crayford Bee-Keepers' Association, no great difference was observable in this yield. Yet in 1914 New Zealand exported nearly £5,000 of honey to the United Kingdom alone. This represented roughly one-sixth of her total production.

Much light was thrown on this admirable achievement by the lecturer's later remarks on the organisation of bee-keeping in New Zealand. This organisation began with the passing of the Apiaries Act, which in addition to rendering anything but movable frame hives illegal, and appointing inspectors and instructors, established a State Apiary for the breeding of queens, and instruction in the industry. At this apiary "cadets" are trained in bee-keeping free of charge, merely having to find their own lodgings and board. State control and supervision under tactful management proving an undeniable advantage. New Zealand honey shippers had by 1914 persuaded the Government to grade all honey for export. The honey is exported principally to the United Kingdom, and the New Zealand Government takes all pains to grade the honey according to the requirements of the home market.

Voluntary organisation among bee-keepers has done even more to establish bee-keeping as an important and lucrative industry. The various local Associations have formed themselves into a National Association, and combined for the purpose of marketing their produce to the best advantage. It is even proposed to establish a depôt for regulating supplies to the markets, and thus maintain a steady level of prices.

Mr. Hodgson expressed his opinion that while governments could undoubtedly render assistance, much could be done by individuals and associations to establish British bee-keeping in a position from which it could view without alarm the increasing imports of honey from New Zealand.

Finally he made reference to the type of hive generally used, and pointed out that the elaborate double-walled hives of Britain had few users in New Zealand. Indeed, in many instances, packing cases of suitable dimensions were made to do service for hives. The ubiquitous kerosene case was admirably adapted for this purpose, and in some apiaries was the only type of hive used. They were cheap, particularly airy, and far from weather proof; yet with little extra cover for roof, wintered many colonies without undue percentage of loss or disease. He thus seemed to establish a plea for a simpler hive for commercial use.

The trend of the discussion following the lecture indicated that the bee-keepers in this country were excellently situated, both for the production of honey and for its disposal. In England there was always a ready sale for good produce at remunerative prices, and yet this opportunity was not taken advantage of to the extent that it should be.

In conclusion Mr. Hodgson was accorded an enthusiastic vote of thanks for his excellent lecture.

GEO. W. JUDGE,
Hon. Sec.

Barrowdene, Shepherds Lane,
Dartford.

[Mr. Judge has received so many applications from all parts of the country for particulars of the pattern W.B.C. hive and templets made by Mr. Gee, of Dover, and presented to the Kent B.K.A., as mentioned on page 40 last week, that he has asked us to print them in the JOURNAL. This we shall have much pleasure in doing, as we are sure it will be of interest and profit to our readers. We are unable, for various reasons, to publish the first instalment this week, as intended, but hope to do so in our next issue.—EDS.]

SHEFFIELD AND DISTRICT BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The fourth annual meeting of the Sheffield and District Bee-Keepers' Association was held at the Wentworth Cafe, Pinstone Street, Sheffield, on Thursday, February 8, and in the absence of the President the chair was occupied by Mr. C. M. Hansell.

The report and balance sheet, which showed a satisfactory balance in hand of £10 10s. 1d., was presented.

Owing to so many of the members being on war service it was decided to re-elect the officers and committee *en bloc* to carry on the necessary work of the Association until more satisfactory conditions prevail.

A prize draw was also held, open to all paid-up members for year 1916, some very good prizes being drawn for.

After the draw, a paper was read by Mr. S. Livsey, on "The Drone," which raised a fair amount of discussion. A hearty vote of thanks to the committee and all those who had helped to make the meeting a success brought a very enjoyable meeting to a close.

W. GARWELL,
Hon. Sec.

SHELTER FOR DRINKING WATER FOR BEES.

The ingenious shelter for drinking water here illustrated appeared in the B.B.J. for April 8, 1915. In view of the importance of a constant supply of water, free from contamination by disease germs, we reproduce it for the benefit of both new and old readers. It was fixed up by Mr. F. W. Harper, of Watford, and consists of a zinc skep cover painted white, and placed on a stout stake driven into the ground to the required angle and height: a nail passed through one of the staples and driven into the wood makes it secure. To those who give this a trial it will prove an object-lesson, and fully support all that has been written on the need of keeping the drinking water protected from the voidings of the bees, for the white paint is constantly sullied by their excrement, and was in that condition when photographed. If a skep cover is not available some other means of protecting the water may be adopted.

SHELTER FOR DRINKING WATER.

A SIMPLE METHOD OF MAKING INCREASE.

Here is a reliable method, and I think an original one, of making rapid increase when fertile queens are on hand, or can be easily obtained, and the weather is sufficiently warm. Take, from a strong ten-frame colony, three combs well covered

with bees, two of which should contain sealed brood, and the other a fair amount of stores, together with the laying queen. These are placed in an ordinary ten-frame hive (or nucleus hive), with division boards on either side to conserve the heat. The bees from two other brood combs are then shaken in so that plenty of young bees are secured to care for the brood and prevent it chilling.

The frames left in the original colony are drawn together in the centre of the hive, additional frames of empty comb being given at the sides to take the place of those removed.

A fertile queen in its introducing cage is then given to the queenless stock, and both the old and the new colony are warmly covered up. The nucleus is moved to a fresh position, its entrance reduced and tightly stuffed with grass to prevent as many bees as possible from returning to their original home. After the lapse of about a week the newly inserted queen should be found laying, and if honey is coming in freely the hive will be full again in ten to twelve days after dividing.

The same operation can be repeated, and may be continued as long as the old colony is able to build up strongly, or sufficient increase has been made. From time to time the nuclei will require additional room, and frames of foundation or comb are placed at the sides till the body of the hive is full. If the object is nuclei for the fertilisation of queens, the nuclei may be sub-divided, and given either fertile queens or ripe cells.

The advantage of such a method is that only a few colonies need be disturbed to get a heavy increase, as there are no long periods of queenlessness, and the nuclei when provided with vigorous queens rapidly build up to full strength, the earliest of which, if formed in May and June, will have ample time to collect stores for wintering, or may even perhaps be fit for supering if there is a full flow, and the district a late one. When sufficient increase has been made the old colonies are strengthened by supplying them with one or two combs of hatching brood each, or two may be united to form one strong colony, the combined stores, after a fair season, usually being sufficient to carry the bees safely through the winter.

Nuclei may by this method need very little looking after: having their original queen they are more contented, and fewer field bees return to the old stand than when they are formed without a queen. When the brood is in an advanced stage in about eight days after formation, they will have become nice vigorous little colonies, and it is surprising the amount of honey such lots will collect during a hot fortnight. I have tried many plans, but the one just explained is the best and easiest of any I know. Indeed, August formed lots, when supplied with twenty to twenty-four pounds of well-made syrup, frequently grow strong enough to be wintered in the warmer parts of our county, and have been amongst our heaviest yielders of honey the following season.

A. H. Bowen.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

LEGISLATION AND BEE DISEASE.

[9417] I have no desire whatever to stir up an acrimonious controversy on the subject of legislation, but I cannot let Mr. Woodley's remarks in "Notes by the Way" (page 30, February 1) pass unchallenged. First of all, the assertion that the Bill introduced into the House of Commons by Mr. Runciman was at the instigation of a small section of the bee-keeping fraternity is contrary to fact; the opponents of legislation were in the minority, but they were better organised, and by the exercise of some occult influence they were able, as Mr. Woodley claims with the arrogant assumption of the possession of a monopoly of the knowledge of bee-keeping, to thwart a measure which would have been of inestimable value not only to bee-keepers but to the community at large. Mr. Woodley and his clique are quite welcome to all the credit they claim for having inflicted what is in reality a serious injury upon the bee-keeping industry, and the stigma attaches to them of having been the means of allowing "Isle of Wight" disease to run its course unchecked for an additional four years, thereby reducing the number of bees and the output of English honey to such scanty dimensions that £187,000 worth of foreign honey had to be imported in 1916 to make good the deficiency.

Mr. Woodley is evidently trying to act upon the lawyers' maxim, "If you have get no argument make your opponent look ridiculous," when he says that I want Mr.

Long to muzzle the bees. Why Mr. Long? I never made—no one outside Bedlam ever would make—such a suggestion, or talk about confining bees. My idea and suggestion is to work on the same lines as in cattle diseases—destroy the diseased bees and infected material by means of fire, and prohibit all movement of bees for a certain definite period. Then work for increase from the healthy stocks left. Any re-stocking scheme at the present time is, in my humble opinion, worse than useless; it is positively detrimental, as it is only helping to keep the disease alive.

And what of drug treatment? In spite of all Mr. Woodley's perseverance, it seems on his own showing to have been a dismal failure in his own apiary in the two instances he mentions. I wonder if "old Dick Welch with his rotten old skep over the way" had anything to do with the infection and subsequent loss of the new swarms hived in those nice clean disinfected hives! And if we did not know better, we should say that going round the apiary pushing in at the entrances of the hives strips of wood impregnated with disinfectants savoured more of the tinkering fussiness of a muddling amateur than the work of a practical bee-keeper.

Bacterol is still on its trial, so we will omit all mention of that. But supposing it turns out to be a permanent cure for "Isle of Wight" disease, I maintain that legislation is still necessary to compel all those who keep bees to keep them in a state of health and cleanliness, if not for their own sake, at any rate for the benefit of their neighbours.

GEORGE E. H. PRATT.

Sheinton, Salop.

THE BRITISH BAR-FRAME HIVE AND COMMERCIAL BEE-KEEPING.

[9418] I read with considerable interest Mr. J. N. Kidd's criticism of the British standard hive, as usually made and used in Britain, in your issue of October 26 last, the more especially as many of his remarks coincide with what I have often said and written about it. Most of us out here who have taken up bee-keeping as a business look upon British bee-keeping as being carried out more as a hobby than on commercial lines. Our hives, unlike the expensive faddy British hives, with their useless porches (harbours for spiders and other insects), double walls, cleats, and expensive stands, are made in the cheapest, simplest, but at the same time most substantial manner. The bodies of our hives are interchangeable as brood chambers or surplus honey boxes (supers), and the ventilation can be regulated at a moment's notice by pushing them either backwards or forwards on the bottom boards. In storing the bodies that come out of use at the end of the season, there are no useless projections to take up room or to get out of order. Being a Britisher, born in England, I would far sooner use British goods and follow British customs and usages than those of any other country, were the former anything near as advanced; but they are not, hence to keep in the front rank we are compelled to go to foreigners for many things. Let us hope the war will alter things in this respect.

There is one paragraph in Mr. Kidd's otherwise very sensible letter, the contents of which are somewhat misleading. In referring to the British Standard frame he says: "We have got a frame that will suit bee-keepers the world over. It is just right in size and easy to handle. Its greatest competitor, the 'Langstroth,' is too big, and the evidence of this is the large number of American bee-keepers who prefer the 8-frame Langstroth hive, which approximates in comb area to our 10-frame hive," etc.

Mr. Kidd has not made a happy selection in bringing forward the 8-frame Langstroth hive as an argument in favour of the smaller British hive. The 8-frame hive was first brought to the front by Doolittle, who considered, on account of the surplus honey season in his district being extremely short, that by limiting the bees to eight, instead of ten frames in the brood chamber, just as the main honey flow was starting, the bees would be forced up into the sections at once—he was raising all comb honey. He gave his experience in the journals, which brought about a demand for the 8-frame hive, not because the 10-frame Langstroth was found to be too large, but simply because Doolittle thought in his short season he could manipulate his bees to better advantage with two frames less at the commencement of the honey flow.

What does Root say in his 1916 catalogue, page 11, when comparing the 8- and 10-frame hive? "We unhesitatingly recommend the 10-frame size, especially to the beginner, as better results are usually obtained with the larger-sized hives." The 8-frame hive is rapidly going out of use in America and elsewhere. Some of our New Zealand bee-keepers find the 10-frame Langstroth too small, and have adopted 12-frames, and I really think, if I were making any change from 10, it would be to 12 frames; it certainly would not be to one smaller than 10. The Langstroth frame is undoubtedly of a most convenient size to handle. I sincerely hope British bee-keeping will, with other

industries, undergo a great change for the better after the war, and that your correspondent, Mr. Neville Colebrook, may be able to prevent "Colonial and foreign bee-keepers reaping a rich harvest, while laughing up their sleeves."—J. HOPKINS, Auckland, N.Z.

HONEY IMPORTS.

The registered value of honey imported into the United Kingdom during the month of January, 1917, was £9,581.—From a return furnished to the BRITISH BEE JOURNAL by the Statistical Office, H.M. Customs.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

"L. J." (Southampton).—*How Long Will a Pound of Candy Last?*—This depends on the strength of the colony. A very strong lot will use it in a week or ten days, but it will probably serve a weak lot five or six times as long. An average colony—four or five seams of bees—will use it in about a fortnight.

Suspected Disease.

J. CHESHIRE (Atherstone).—There were symptoms of "Isle of Wight" disease in Nos. 1 and 2. No. 3 was seriously affected.

H. E. CHARTER (Blackheath).—There were slight symptoms of "Isle of Wight" disease, but the immediate cause of death was starvation. Probably the candy was too far from the cluster for the bees to reach it during the very cold weather.

W. MORGAN (Dover).—(1) The trouble is "Isle of Wight" disease. We cannot account for the dead bees under the tree. They may have been a small cast that you did not notice, or they may be diseased bees that have crawled out of the hive. (2) Under the circumstances the best plan will be to kill and burn the small lot of bees left, and also burn the contents of the hive.

J. FITZWILLIAM (Biggleswade), R. ATKINSON (Windermere), "G. J. W." (Chester).—The bees have died from "Isle of Wight" disease.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1*d. per work as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3*s. per* ¼*in., or* 5*s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WANTED, "Cheshire on Bees," 2 vols.; no fancy price.—J. B., Post Office, Wingrave, Aylesbury. c 15

FOR SALE, "British Bee Journal," from May, 1907, to March, 1911; "Irish Bee Journal," from January, 1908, to December, 1909; "Bee-Keepers' Record," from February, 1911, to May, 1912. What offers?—DAVID HUNTER, Craighead, Abington, Lanarkshire. c 14

J. H. FABRE'S "Souvenirs Entomologiques," 10 vols., in French, from the Librairie Ch. Delagrave, Paris. Any volume post paid for 3s. cash.—S. H. SMITH, 44, Maid's Causeway, Cambridge. c 13

LINCOLNSHIRE Honey, granulated, in 28lb. tins, 1s. per lb., cash.—WAIN, Thorpe Bank, Wainfleet. c 12

WANTED, Extractor, geared; also Ripener and Strainer.—WOOD, Tailor, Holmer-street, Hereford. c 10

THREE pure bred Rhode Island Reds and one Exchecker Leghorn Cockerels, April hatched, for sale, beautiful large birds. What offers?—CATTANACH, Cat Lodge, Kingussie. c 11

BEES wanted, in skeps or in frames; guaranteed healthy.—DYCHE, Flackwell Heath, Bucks. c 9

FOR SALE, a pair of diagrams, "The Anatomy and Physiology of the Honey Bee, and its Relation to Flowering Plants," drawn by the late F. R. Cheshire, mounted on linen, 30s.—BRITISH BEE JOURNAL Office, 23, Bedford-street, Strand, London, W.C.

SIX W.B.C. hanging frame section boxes, with dividers, unused, soiled, 4s. each; 50 ordinary pattern section racks, 1s. 3d. each.—"X. Y. Z.," "BEE JOURNAL" Office, 23, Bedford-street, W.C.

WANTED, drawn out Combs, in wired shallow frames, drone base preferred.—TRINDER, Edwinstowe, Newark. c 3

WANTED, dozen Queen Excluders, zinc, with border; also fifteen 28lb. tins, in good condition; also Spur Embedder, by Steele and Brodie, with brass ball.—J. YOUNGER, 29, Newmarket-road, Cambridge. c 2

MEAD (15 years old) for disposal; particulars.—MEAD, "BEE JOURNAL" Office, 23, Bedford-street, Strand, W.C.

BY APPOINTMENT.

IZAL

The Modern High-Power Germicide is a reliable remedy against Foul Brood and Isle of Wight disease.

From the B.B.J., July 22, 1915.

IZAL AND "ISLE OF WIGHT" DISEASE.

"I had lost twenty stocks when I tried Izal with my remaining three stocks which were very badly affected . . . The bees are now in very good condition, due solely to the use of this disinfectant."

Sold Everywhere in Bottles, 6d. and 1/- each.

Ask for full details of IZAL Treatment, sent post free by—

NEWTON, CHAMBERS & Co., Ltd., THORNCLIFFE, Nr. Sheffield.

FOR SALE, by W. HERROD-HEMPSALL, Old Bedford-road, Luton, Ariel 3½ h.p. Motor Cycle and Side Car, in perfect condition; any trial or expert examination allowed; spares, belt, in leather case, two tubes, one cover, valve spring, back axle; all wheels fitted with Peter Union bands, back to saddle, horn, speedometer, three acetylene lamps, special luggage carrier on side car to carry two gallon can of petrol and one quart oil can, in addition to luggage, kick start, three speeds. Ridden by above, to be sold on account of medical advice; offers, or will exchange for Player Piano.

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

COLONIAL HONEY.—LEONARD HALL & CO., 6, Rood-lane, London, E.C., Honey Importers and Packers for H.M. War Dept., the leading Stores, &c. a 2

MESSRS. STONE & SON, LTD., Chemists, Exeter, are buyers of English Beeswax, in large or small quantities. Write, stating quantity and price required. a 3

1 OR 2 CWT. of clear or granulated Honey required, in bulk or already bottled.—DOLLIS PARK DAIRY, Church End, Finchley. a 1

THE

British Bee-Keepers' Association.

The recognised centre of practical and scientific bee-keeping in Great Britain. Particulars and conditions of membership may be obtained from the Secretary.

W. HERROD-HEMPSALL, 23, Bedford Street, Strand, London.

DUTCH BEES.

Dutch Stocks on six Standard Frames, 1916 Queens. Will be ready in April. Price 30/-. Order early.

WM. CHANNELL,
Grove Apiary, HISTON, Cambs.

ROWE,
28a, Moy Road, CARDIFF,

SELLS Pure Honeys, Colonial and Californian, &c., carriage paid, tins free; cash. Samples 3d. BUYS Home-produced Run Honey, Sections, and Beeswax.

SAVE MONEY this winter by making up your own hives. Particulars of wood cut ready to make up into hives will be sent free on receipt of a post card.

E. J. BURTT, Manufacturer, GLOUCESTER.

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

1st Air Mechanic W. S. Crisper, Hunslet, Leeds.—R.F.C.

A WONDERFUL CITY.

THE LIFE STORY OF THE HONEY BEE.

By Oliver G. Pike, F.Z.S., F.R.P.S.

(*Continued from page* 47.)

CHAPTER VI.

THE AWAKENING.

With the last days of autumn, the inhabitants of this wonderful City settle down to a period of winter rest. Day after day, and week after week, this drowsy multitude remain in a state of slumber, waiting patiently for the first gleam of spring sunshine.

At last the cold winds of February go, the snow that lingered under the shadow of the hedgerows disappears, and the skylark, that beautiful harbinger of happier days, is heard singing high, near the ever brightening sky. A warm west wind, gentle and soft, plays over the thawing ground, and as the pale sun rises higher, and the shadows near the apiary move ever onwards towards the days of flowers and song, a little gleam of yellow light moves slowly in at the hive entrance. It gets longer and longer, brighter and ever brighter, throwing up reflections on to the dark combs of wax, and at last this reaches the cluster of silent bees, and gives them the first message that spring—the spring that they love—has placed her first footstep on the meadows outside.

Some of the bees leave the cluster, they crawl lazily down the combs towards the light; they seem to be lost, as it were, in wonder, and stare around them; they go back to their sisters, then return with many companions, some venture to the threshold of the hive, again look around them, and feel the soft breath of spring. One bolder than the rest opens its wings, which have not been used for so many weeks, and launches out into the arena before it. Others soon follow, and presently around the hive there is a large crowd of humming insects; round and about their home they fly, not going far at first, and shortly the sun begins to sink again, and they go back.

But the message of spring has been sent into the hive, and all the inhabitants are filled with a new life. Scavengers begin to search around the city, and as the days go on the refuse and dirt which has accumulated during the winter months is cleared out. Empty cells are thoroughly cleaned, and right in the middle of the cluster the Queen begins to lay a few eggs, perhaps only a dozen a day. Eager workers help to place the City in order, the cells which contained honey and which were roughly broken open in the colder days, have their edges carefully rounded. Any mould which has grown on the combs is carried away; other Workers go out into the fields and gardens, and anxiously search for the first yellow flowers of spring. Then when the sun, which is daily giving more warmth, opens the crocuses in the gardens and the coltsfoot in the meadows, the Worker bees begin to carry in bright balls of pollen. It is like a signal of joy, a great message of hope, and acts as a wonderful impetus to this little people so eager and anxious to work. With every day of sunshine, hundreds of Workers follow their companions to the pollen-bearing flowers, and large quantities of this useful bee-bread are carried into the hive.

What effect does all this have inside the hive? Some of the bees, as soon as they know pollen is coming in, go to the cells where the best honey is stored, and taking their fill of this go back to their Queen. They cluster round her, and holding out their tongues invite her to feed. Others lick her body and stroke her wings with their antennae. With increasing quantities of food given to her she lays more eggs, and is still urged on by her attendants to place eggs in the empty cells. As each day passes by, more and more eggs are laid, until maybe she is laying two or three hundred each twenty-four hours.

The early flowers droop and fade, and more take their place. The soft voice of Spring speaks, and the meadows reply, and as she slowly, day by day, glides onwards, there is left behind a trail of opening blooms, which give to the woods and hedgerows a beauty unspeakable, and a joy we know not how to express. The birds are singing out their music with ever-increasing beauty, with each rising and setting of the sun. The pageant increases in beauty hour by hour, and the bees fill the soft air with a louder and happier hum. We hear the music of

spring in the sky; we hear it in the trees and round the flowers; it is everywhere, above and below.

Let us go back to the hive. All is bustle and excitement, workers are hurrying into the City, one tumbling over the other in their eagerness, and many are each carrying in two big lumps of bright-coloured pollen. Others are taking small quantities of honey, for the flowers have not yielded a full supply. But at length the blackcap's merry song and the twitter of many happy willow-warblers betoken that the orchard trees are showing their blossoms, and the real honey-flow, as bee-keepers call it, has commenced.

What a signal it is to the bees. What energy is put into them. It is like an army which is almost defeated being re-inforced by the reserves; each individual is filled with an eagerness to go on, inspiration and zeal is, as it were, in every single heart. Inside and outside the City the inhabitants are one buzz of excited work from morning to night. The masons of the City are busy constructing new cells wherever there is space, and these are as quickly utilised by the Queen for eggs. Cells of two sizes are built, some larger than others, and the latter are used for rearing the Drones or male bees in. On some of the centre combs some remarkable wax cells are being built, in addition to the others just mentioned. They first look like inverted acorn cups, and in each of these the Queen is induced to lay an egg, or maybe the workers construct such a cell around a smaller cell, which already contains an egg, the unnecessary walls being pulled down, and others built. As the egg hatches a tiny grub appears of a milk-white colour, and this is given an abundance of food, and the cell is gradually lengthened, until about one and a half inches in length. The food provided is known as "royal jelly," and an abundance of this is placed in the cell, not as is the case of the Worker bees, just sufficient for their requirements, and not a drop more, but more is placed in than the grub can eat. At last, this and the other four or six similar cells are sealed over and carefully guarded by sentinels. These are Queen cells, containing the mothers of future Cities. Every day hundreds of young bees are leaving their six-sided cells, hour by hour, the nurse bees are busily engaged feeding the grubs and sealing over the young bees in the chrysalis state; larger and ever-increasing quantities of Nature's sweetest gift—the food from the flowers—is being brought home and stored; and with each setting of the sun, incredible as it may seem, the Queen has deposited in empty cells about *three thousand eggs*, travelling over the combs, surrounded with her ladies-in-waiting, she, without rest, goes on, minute by minute, laying eggs. The City is becoming populous, it is almost overburdened, and there seems no more space inside either for Queen or Workers to perform their allotted tasks. What are they to do—stand idle? No, that wonderful power which governs this wise little nation gives them the word of command, and a strange and wonderful command it is.

Outside the City the orchards are a sea of bloom; the hedgerows are gay; song is in the trees and in the air. All the world is happy. Birds, insects and flowers seem to join in the chorus of spring, making the morning full of those glorious hours which make our English springtime what it is—just one glad song.

The bees hear the call, the call from the outside world, and obey.

(To be continued.)

HIVE CONSTRUCTION FOR AMATEURS.

By C. F. Gee, Dover.

The number of inquiries received and the interest shown in the subject of hive construction by amateurs and other bee-keepers as a result of the reports of the demonstration I had the honour of giving to the members of the Western Division of the Kent Bee-keepers' Association at Dartford in December last, has induced me to prepare this article in the hope that it may be of assistance to others who may desire to construct their own hives.

The W.B.C. hive is without doubt the best on the market at the present time, and the most suitable for the climatic conditions of this country. I have therefore taken this design as a model, and in its construction have employed a tongue and grooved joint, as will be seen by the drawings and templets. This principle entails somewhat more intricate workmanship, but if the amateur will follow my suggestions the tongueing and grooving can be easily accomplished by anyone used to handling a few tools. This joint prevents rain from penetrating into the hive, and if, on assembling, the parts are well painted and nailed, the hive with ordinary care will last a good many years.

I have adopted a hive of ample dimensions, and square, i.e., 21ins. by 21ins., outside measurements. This gives an opportunity of using a 12-frame brood box if desired, which can be placed with frames either parallel or at right angles to the entrance. The lifts being square, will fit whichever way they are put on, thus saving time during manipulations.

Another important point is the selection of suitable timber. There are many who prefer to make their hives from old boxes and packing cases: this is a great mistake, as such timber is almost always fir spruce and white deal, which will not stand the

weather. All parts exposed should be of good red deal or yellow pine, and if such wood is kept regularly painted it will last for many years. Almost any builder or joiner will cut timber to desired lengths, and if one will only take the trouble to ask he can usually obtain well-seasoned and good quality stuff.

It is far preferable to plane the wood oneself, as machine planing reduces the thickness by $\frac{1}{8}$in. over hand work. Furthermore, if the material is not well seasoned the brood box and supers will be considerably reduced in height after having been in use some little time, thus allowing the frames to be propolised to the floor board, etc.

(To be continued.)

THE SUGAR PROBLEM.

By J. Price.

"Honey is Nature's most wholesome sweet which sugar has supplanted, but not surpassed." The above is a quotation from a well-known bee book which was written thirty years or more ago.

At that time it was probably more noticeable than it has ever been since, until the war has, owing to shipping difficulties, forced us to regulate our consumption of sugar.

Among household matters I think there is nothing that at present creates so much conversation as the sugar problem. Very few persons, however, realise that our ancestors provided this necessary sweet long before supplies of sugar came from over the seas, and I venture to think that there are yet quite a few bee-keepers who do not understand that at one time honey was the only sweetening agent our forefathers had. We have many proofs that honey was in use long before sugar was discovered. This can be seen by looking into old cookery books, where sugar is not mentioned, whereas honey is invariably the recognised sweetening agent. Probably sugar was then too dear to purchase, or could not be very easily procured.

Again we have many proofs in old country houses and cottages which still retain their old bee houses erected for the accommodation of hives of honey bees a century or more ago. One of these, situated in Warwickshire, is illustrated in the "Guide Book," but this is by no means out of the common. There are many such places that are in use at the present time, at least they were before the advent of "Isle of Wight" disease, but many are not used because they will not accommodate a modern hive. Many times I have seen these recesses in stone walls in the gardens of old farmhouses, and inevitably one's thought runs back to what our ancestors were like as bee-keepers. One thing is certain, that in those days the builders understood that a recess in the wall for the holding of a few skeps of bees was as necessary to the complete equipment of a homestead as a stable, cowshed, or pig sty.

In those days the country produced the greater part of its food; since then, however, probably owing to our mineral or other industrial successes, the products of the land have been neglected; we have depended for supplies mainly on our shipping. Not always a wise course to follow, as the war has shown so vividly.

So much so that all local authorities are now relaxing their bye-laws on this, that and the other. Pig feeding, poultry keeping (for food and eggs) are recommended, and recently I attended a lecture on "How to Grow Potatoes." It seems to me that honey production is such a negligible quantity as not to be worth reckoning with. Perhaps this is because bee-keepers in the past have been looked upon as faddists, or that honey has been converted into a luxury only for the few.

On the other hand, the increased supplies of imported honey ought to be more generally known. I wonder if the Sugar Commission is aware that this foreign honey is supplanting sugar, and in many cases surpassing it, especially the low grades of sugar the grocers supply at times. It is astonishing how very few people ever think that honey will take the place of sugar, in many cases with far better results; in fact, it is a sugar of the highest grade.

To my mind, then, it is up to bee-keepers to prove during the coming season that honey can take the place of sugar to a far greater extent than it is doing, and I would suggest that all bee-keepers who previously have worked their stocks for sections to put these aside and work for extracted honey. In this way a greater quantity can be obtained, and when it is granulated it will market at a good price in preference to sugar. The bee-keeper will then be making the most profit for himself, he will be doing a duty to his country by augmenting the sugar supply, and it is possible that if this is done to any extent it may educate the public to its greater use, its production may receive greater recognition from the present authorities and those that will be after the war. While on this subject, with the Editors' permission, I should like to make a few remarks about the allotment of sugar for feeding of bees. We are all greatly indebted to Mr. J. Herrod-Hempsall and others who have done so much for us, but I am afraid that the rather

high price asked will make against the scheme being a success. The average bee-keeper is usually not over well-to-do, and the price at present asked is not attractive to these persons. The result will be that probably the amount given will not be bought up, which means that further efforts in this direction will not justify another allotment, the object for which it was made will have failed, and bees will die of starvation, because their owners cannot afford to purchase what is now offered.

I am pleased to see that a reduction has been made in the price of "Bacterol," it being now 2s. 6d. post free instead of 2s. 9d. This, I am sure, will be appreciated by all bee-keepers, and tend to give this article a more generous trial as a remedy for "Isle of Wight" disease than it has already received.

ABOUT ORGANISATION.

Whether to obtain "legislation," or in any other social movement, it is of course essential to know exactly what we want, what the obstacles are, and, lastly, where to look for and where to concentrate our forces.

Mr. Cattanach (page 8) perhaps is not aware that an attempt has been made to show the "need" in the manner he suggests, but not where we might reasonably expect to find it, namely, through County Associations, but the information was picked up indiscriminately. Some thousands of bee-keepers were reached I know (the Editor of the *Smallholder* could no doubt furnish the figures). This should not dishearten, but rather encourage us to make another and stronger pull this time in all the might of our County Associations. Some of us send a resolution from our "annual meeting," but the attendance and support is usually so meagre that really it would be a surprise were our voice to be heard, much more felt, and those hard-worked gentlemen who manage for us have a job to arrange for our business and pleasure through lack of support, but we expect the "times" to come round, and one might at least write sometimes and offer to do something in our locality.

For the purpose of the petition any eligible bee-keeper's name would be welcome, whether his bees are alive or dead. I would suggest a column where approximate losses can be registered (I won a hive through inserting this, I think, so I know it's good), and it would give some idea of the awfulness to us of the disease, for we must remember the people who have the power may count our little friends as enemies, and might be glad to hear of their death, and probably be entirely ignorant of their usefulness.

I think the best results would come by working through the Central or British Association, as they are in touch with all that has gone, and is going on, and if we see that our representatives are in favour of, and instructed to ask, for this petition, no doubt the whole business will come off. After the war is no use. I have just been promised that it is "having attention" at the Board of Agriculture. Let use see that we have *more* attention. Seed and food depend upon it. If the British Association think it desirable to have a committee of their own and would co-opt one extra from each association, it would be a start made to consider a plan, funds, etc., but I certainly think some plan ought to be made before their first meeting, or else there will be another year gone, and that is the best representative meeting, I believe, that exists.—A. H. HAMSHAR.

A LONELY BEE-KEEPER.

I am wondering whether there is any bee-keeper living within the near vicinity of Grove Park, Lee, S.E. (where I am now stationed) with whom I might correspond, or perhaps call upon when not on duty.

So if this meets the eye of anyone who would care to make themselves known to me by letter I should be extremely glad.

Though I am no longer actively engaged among bees and bee-keepers there is still much pleasure to be got from the literature of the times, and especially so from a chat with a bee-keeper.—A. H. BOWEN, 271396, Orderly Room, M.T. Reserve Depôt, Grove Park, Lee, S.E.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

A "COMPROMISE" HIVE.

[9419] May I reply to those of your readers who have been kind enough to write on the subject of my suggested compromise hive.

I am much interested in the experience of "R. F. S." [9402] with a Conqueror hive. I should like to know if he used ¼-in. starters in the non-swarming shallow chamber. This is *the* point of Simmins's system. A chamber with full sheets of foundation does not serve the purpose.

It is, of course, very much more difficult to prevent swarming when one is working sections.

No, I have not yet tried the compromise hive, but fully intend doing so this season.

I should have made it clear that the outer case of the compromise hive would be exactly similar to that of the W.B.C., namely, an outer cover to brood-box and lifts.

This brings me to Mr. Manley's objection [9403], namely, one of price. The price of the Conqueror is prohibitive I agree. My compromise hive would cost no more than the W.B.C. The only difference being that the brood, non-swarming, and super-chambers rest on ¼-in. blocks, and that they are all the exact depth of the frames. If the frames are placed parallel to the entrance no alteration will be found necessary in the width, as there is exactly ¼-in. space between inside chamber and outer case when placed this way. The length, however, would have to be shortened in order to preserve the ¼-in. space at the back. The floor would be more simple to construct than the W.B.C. floor-board, inasmuch as it would be in one level piece. The 2-in. entrance—as explained in my first letter—would be cut out of the outer case.

I am particularly indebted to Mr. Claridge [9410] for his letter on the subject. I certainly agree that he meets a good many of my objections to the W.B.C. hive by his method of manipulation.

As regards ventilation does not the perforated zinc in the floor-board get blocked with propolis?

Again, I do not think the extra ¼-in. space between brood-box and floor-board obtained by resting same on ¼-in. laths to be sufficient. A shallow chamber provides about 4ins. This is certainly met by his method of working the extracting supers of standard frames *under* the brood. I take it that at the opening of the season when an additional brood chamber is required it is placed underneath. The queen descends into it, and as soon as a new brood nest is being formed another standard frame box is again placed beneath. We shall now have brood hatching out in the top chamber, the queen breeding in the middle one, and new sheets of foundation being drawn out in the bottom one. Again, another standard chamber is placed beneath. The top one should now be ready to receive honey. The next will contain hatching brood. The queen will now have descended into the third, and the bottom one will be in the process of being drawn out. I should like to ask Mr. Claridge if he does not find that *some* of the frames in *all* the chambers get clogged with pollen, and that the brood is spread over several of the chambers.

I am afraid I cannot agree with Mr. Quinton [9412] with reference to using all shallow frames. These frames are much too shallow for use in the brood chamber. I agree that all chambers should be interchangeable, that is why I use standard frames for extracting. If I could find an extractor to take commercial frames I should use them throughout.

I must apologise for taking up so much of your valuable space, but I should like to mention one more point with reference to the deep 2-in. entrance. If the empty shallow chamber, on which the brood chamber rests for wintering, has the front side coming to within only 2ins. of the floor-board ample room is provided, so that a shallow feeder, on the "Canadian" pattern, could be slid in through the front entrance right under the brood nest. Warm syrup could thus be given if necessary without uncovering the hive and disturbing the bees. The floor-board could also be cleaned out during the winter. The entrance could be blocked to keep out mice, etc., by a slide similar to a slotted separator.—DUDLEY FIELDEN.

LEGISLATION FOR BEE-KEEPERS.

[9420] A few weeks ago a vessel arrived from abroad at a port near here. The cargo was discharged, some being placed in a dock warehouse. Very shortly afterwards two suspicious cases of plague were reported in the neighbourhood, the men attacked having been engaged, with others, in discharging the cargo. Both were immediately taken to an isolation hospital, and eventually died, as also did the medical man who attended them. Meanwhile the cargo had been removed from the warehouse, but the port medical authorities forbade the warehouse people to sweep the floors upon which the goods had been stood. This was done by the medical authorities' own people, and the sweepings destroyed at the destructory by fire. The human remains of the victims who had died were also cremated. Now why did the medical authorities go to all the trouble of cremation, etc., instead of merely contenting themselves with medically treating the

patients? Because it is an incontrovertible fact, based on the highest medical authority and practice, that in dealing with disease organisms, not only to deal with the cases of actual infection, but also in equally drastic fashion with every possibly tainted source of infection, in order that the outbreak may at once be "stamped out." It was not sufficient even to cremate the bodies of the victims; there doubtless lurked in the dust on the warehouse floor potential means of other outbreaks, given suitable conditions and opportunity. The fact of its outbreak at the port at all is convincing proof of neglect at some other point in these very necessary measures not having been taken, and is proof also of their imperative need. As with the human species, so also with *Apis mellifica*, the only difference being in the kind of organism. To possess but an ordinary knowledge of the life history of some of these disease organisms is to become aware of the great need of precautionary measures in combating them. In the early stage of their existence, so long as suitable material is available, the work of multiplication by division and this, with great rapidity, too, is carried on, but when this nutrient material becomes exhausted, the spore, or seed, stage is reached, and which is by far the most harmful and difficult to attack. Now the organism takes on the "spore" form for a specific purpose, as also in the case of the seeds of plants, etc., i.e., that of reproduction and multiplication by means of "dissemination" and "distribution." In order that the cycle of life may be carried on anew, fresh nutrient material must be sought further afield, and the diseased bees themselves, in addition to other means, as, for instance, the wind, are used to achieve this object. The disease organism is really engaged in a struggle for its existence and multiplication, we in a struggle for its destruction. To "cure" is not sufficient, to "eradicate" is essential. To do this the treatment must be drastic and comprehensive. Every possible tainted source, every lurking place must be sought out and dealt with. Some idea of the difficulty involved in this may be gathered from the circular letter of the Board of Agriculture on the "Isle of Wight" disease. It states that "the disease may even exist in bees which show no microscopic symptoms to exist at all." It adds, "Five stages, or degrees, of seriousness have been described, the first two of which cannot be detected by the ordinary observer, the third stage is the first which usually attracts the attention of the 'careful' bee-keeper, the last two stages are incurable." To achieve the "eradiction" of these disease organisms which attack our bees the co-operation of every bee-keeper is essential. A few careless and negligent bee-keepers here and there will frustrate the efforts of the many. From their diseased stocks reinfection will be spread around. These careless bee-keepers do exist, as many of us know from experience, and will continue to do so, hence the need for legislation, so that every hive, without exception, if necessary, may come under the scrutiny of competent men. Such a state of things should have no terror for earnest bee-keepers, only for the indolent. This, then, is my case for immediate legislation. To put off the evil day is to allow things to become worse. This we have already proved. It may be impossible to "isolate flying insects for six weeks," but we can at least attack the stronghold of the disease, i.e., the infected hive and colony, and we can also deal with the diseased bees, or, at any rate, the majority of them, when they return to their hives in the evening. Citizenship implies an obligation to think of the needs of others as well as ourselves. We bee-keepers are citizens, and, what is more, "comrades" in the craft.

Let everyone of us who realises this comradeship put aside selfish considerations and help by the only possible means, i.e., requiring all who keep bees to do so in a cleanly and proper manner, to strive for a clean bill of health for the apiaries of our country. Each bee-keeper should, by letter, urge the need of legislation upon his member of Parliament, and ask him to take action in the House. County and other associations could materially assist by passing strongly-worded resolutions at their meetings, sending copies of same to the Prime Minister, Secretary of the Board of Agriculture, and the Chancellor of the Exchequer. We have proved the need; it is now incumbent upon us to prove the demand for legislation.

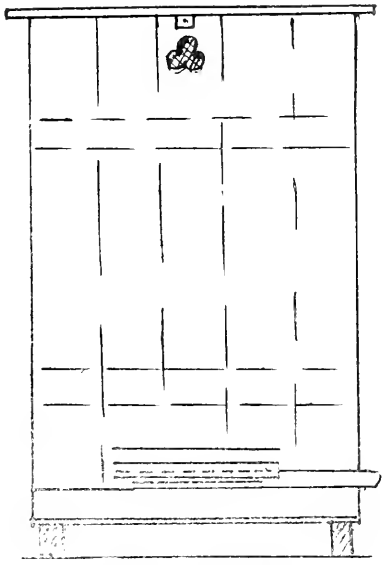
J. W. Mason.

THE IONIC HIVE.

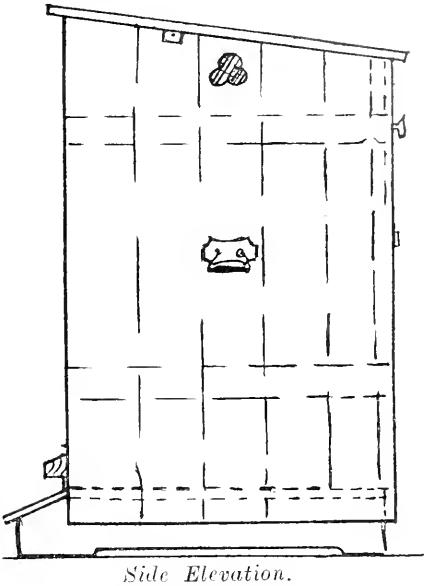
[9421] I have been much interested in the letters in the British Bee Journal on hives and their advantages and otherwise. Since I started bee-keeping I have tried and made nearly all kinds of hives, but have turned them all down for the one as per drawings enclosed.

I find this one the cheapest to make, most durable, and easiest to work. It consists of 1½in. by 4in. runners, 1in. bottom, ½in. sides and top. The whole of the back takes out. I find its advantages as follows:—Cheap and easy to make, nothing to rot or get out of order, and ideal to manipulate, because when the back is removed the whole of the supers and brood box are exposed, without a lot of loose tops and lifts littering all around. It also enables one to examine the contents in any weather, being sheltered

from both wind and rain, also one does not unduly expose either bees or honey, whilst working at the back the work of the bees going in and out at the front is not interfered with, and they are not aware that one is there at all. It may be ventilated as wished by placing a non-inside of the case for the hand to grip them when lifting on or off. The case is very light, and can easily be carried about by one person by means of the handles on the sides, which is a great advantage over the ordinary W.B.C., which is in, say, five or six different parts. The top can be either fast or loose. I make mine loose, and prevent them blowing off by fixing small metal clips on side and front. —W. Ion, Healing.



Front Elevation.



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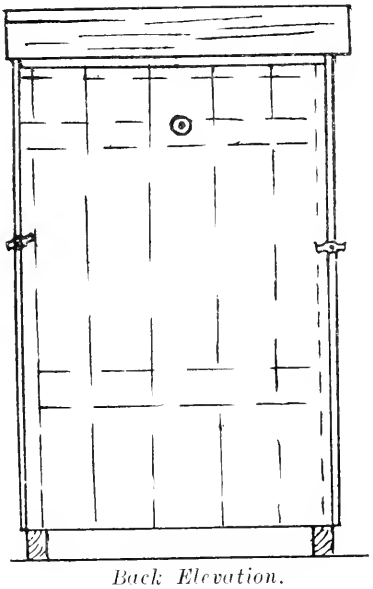

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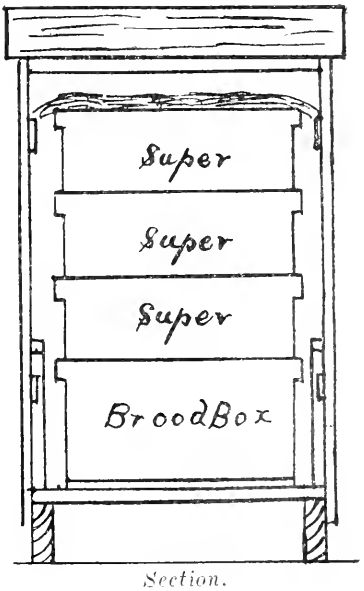

Section.

THE IONIC HIVE.

swarming chamber under brood box or a vent in the bottom board, or by blocks lifting one box clear of another. There is sufficient space between the supers and

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

STUPEFYING BEES.

[9057] I should be very glad if you could tell me of any easily obtained substitute for the "Puff-Ball" as a means of temporarily stupefying bees, without injury to the bees or honey, as that old method of dealing with them seems to me, in certain circumstances, to have advantages over smoking and driving them.—WILLIAM MONTAGU.

REPLY.—The only other method, except smoking or a carbolic cloth, is to saturate a sponge with chloroform and insert it in the smoker. Drive the fumes in at the hive entrance until a few bees come out and spin round on their backs, when subjugation has proceeded far enough to manipulate. We do not recommend this method, as it is an easy matter to destroy the stock.

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

"RADNORIAN" (Presteigne).—*Value of Bees.*—We cannot say without seeing them; much depends on the age and condition of the combs and the queen. If these are good we should say from 4s. to 5s. for each comb *covered with bees*; the other combs free of bees 8d. to 1s. 3d., according to condition and stores.

J. E. JAMES (Pontardulais).—*Bees Voiding Excrement when Flying.*—This is a good sign, and is the usual thing when the bees are able to fly after being confined to the hive by cold weather. The article, "A Wonderful City," is not yet published in book form, but will be later, and will also, we believe, be illustrated by photographs taken by the author.

Suspected Disease.

W. LAMPETT (Gloucestershire).—Both lots of bees were affected by "Isle of Wight" disease. It is much safer to melt down all brood combs, or burn them.

MISS W. D. (Berkhampstead).—The cause of death was "Isle of Wight" disease.

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Two Words One Penny, minimum Sixpence.

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Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per work as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ½*in., or* 5s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

BEE Hives wanted, good condition; particulars.—BEE, 73, Lewin-road, Streatham, S.W. d 1

FEW dozen pure Heather Honey, 15s. dozen, f.o.r.—E. GLOSSOP, Ridgeway, Ambergate. d 3

FOR SALE, five modern W.B.C. Hives, with stock box, ten drawn out combs, and three 6in. lifts to each hive; fourteen Shallow Frame Boxes, with frames, wide ends, drawn out combs, on drone base foundation, one W.B.C. section rack, roofs canvas covered, and sundries; all newly painted; perfect condition; price £7 10s.—ALLWOOD, 32, Osborne-street, Leek, Staffs. d 4

WANTED, stock Dutch or Italians, free disease.—HALL, Frowlesworth-hill, Lutterworth, Leics. d 2

FOR SALE, twenty-five Shallow Frame Boxes, 1s. 9d. each.—THURLBY, 82, Grosvenor-avenue, Wallington, Surrey. d 3

WANTED, Extractor, geared; also Ripener and Strainer.—WOOD, Tailor, Holmer-street, Hereford. c 10

BEES wanted, in skeps or in frames; guaranteed healthy.—DYCHE, Flackwell Heath, Bucks. c 9

FOR SALE, a pair of diagrams, "The Anatomy and Physiology of the Honey Bee, and its Relation to Flowering Plants," drawn by the late F. R. Cheshire, mounted on linen, 30s.—BRITISH BEE JOURNAL Office, 23, Bedford-street, Strand, London, W.C.

SIX W.B.C. hanging frame section boxes, with dividers, unused, soiled, 4s. each; 50 ordinary pattern section racks, 1s. 3d. each.—"X. Y. Z.," "BEE JOURNAL" Office, 23, Bedford-street, W.C.

QUESTION IN THE HOUSE OF COMMONS ON "ISLE OF WIGHT" DISEASE.

WEDNESDAY, FEBRUARY 28, 1917.

SIR WALTER ESSEX: To ask the Parliamentary Secretary to the Board of Agriculture whether the Board is still pursuing its inquiries into the "Isle of Wight" bee disease, and with what results; and when the Report of the Board's protozoologists on Microsporidiosis will be laid before the House.

SIR RICHARD WINFREY: The Board's expert adviser on protozoology is now in South Africa, and her experiment on "Isle of Wight" disease is at an end. She left at short notice, and was not able to complete her report before leaving, but she has promised to send it as soon as possible.

DERBYSHIRE BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the Derbyshire Bee-keepers' Association was held in the Grand Jury Room on Saturday, Mr. R. Giles (Etwall) presiding. The report read by the secretary showed a slight decrease in membership during the past year, many members having sustained heavy losses from the effects of Microsporidiosis, better known as the "Isle of Wight" disease, and unfortunately there was a corresponding falling off in subscriptions. The credit balance on the year's working amounted to £8 12s. 9d., which in the circumstances was considered satisfactory.

Mr. Giles, in moving the adoption of the report, congratulated the members on the satisfactory financial position of the association. Disease, he said, had destroyed numerous apiaries throughout the county, and its ill effects were bound to be felt by the association. He regretted to say experiments conducted by the Board of Agriculture to eradicate the disease had apparently failed, and at present no remedy had proved effective: meanwhile, he hoped the epidemic might receive a check by the introduction of Bacterol and various mixtures which were being given a trial.

Mr. Pearman followed with some interesting remarks on the same subject.

The Duke of Devonshire was re-elected president, the chairman remarking that although the presence of the Duke was not likely to be available, the fact that his Grace had been a friend of the association since its formation gave him great pleasure in moving his re-election and tendering to his Grace their grateful thanks. A hearty vote of thanks was also accorded the County Education Committee for the yearly grant which helped materially the educational work conducted by bee experts throughout the county for the benefit of bee-keepers and the honey industry generally.

Mr. G. H. Strutt was re-elected representative to the County Council; Mr. E. J. Swain (Mickleover), treasurer; Mr. T. W. Jones (Etwall), hon. auditor; Mr. F. Meakin, secretary; Mr. S. Harrison (Derby), expert for the central division; Mr. S. T. Durose (Burton-on-Trent), southern division; expert for the northern division not yet selected.

Mr. Pearman was elected the representative on the British Bee-keepers' Association, London. The following composed the committee of management: Messrs. G. L. Bakewell (Egginton), G. Bannister (Church Broughton), W. M. Bennett (Findern), S. T. Durose, A. Eaton (Hatton), J. Hinton (Derby), J. Kirkland (Derby), J. Pearman (Derby), J. Rowland (Holbrook), E. J. Swain, D. Wilson (Belper), G. T. Pallett (Makeney), vice-chairman.

It may be of interest to add that the Derbyshire Bee-keepers' Association was founded in 1891, its chief promoters being the late Mr. H. V. Edwards, who at that time resided at Mackworth, and the late Mr. W. G. Copestake, of Langley, who was the treasurer.

HEREFORDSHIRE BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The advantages of bee-keeping for cottagers were emphasised at the annual meeting of the Herefordshire Bee-keepers' Association, which was held at Hereford on Wednesday afternoon. Mr. J. Arnfield, the expert, stated that hives which originally cost 25s. would now be 30s. to 32s. 6d., and the Rev. K. O'Neill, in seconding the proposition of the Chairman (Mr. George Cresswell) that Mr. C. T. Pulley be elected president, pointed out that a great part of the work of the Association was to keep in touch with the cottager, whom they desired to help as much as possible. He thought this must have been in the minds of the County Council Committee when

that body not only voted the Association a grant, but decided to increase it to £15; and the Association ought to consider itself very fortunate in finding such a gentleman as Mr. Pulley, whom he knew had shown his desire to help the cottager, ready to accept the office of president.

As a result of the war they realised, as Mr. Cresswell had said, that Associations such as theirs were going to rise. It was because of the demand for honey that the price had gone up so high, and people were more generally beginning to realise that it was a valuable food; in fact, in the North people had been using honey to sweeten their tea and puddings. This was encouraging to bee-keepers, especially to those who had burned their stocks on account of disease; for there was certainly an opportunity to rise again on their ashes by starting afresh. He himself had done so, and so far the result had been most satisfactory.

He suggested that the County Council should follow the lead of certain other counties, by purchasing bees from Holland or elsewhere, and let the hives to cottagers on reasonable terms. He believed the imports of honey were over £1,300 a month, and if something could be done in the way suggested a great deal of this honey could be produced at home. Mr. Pulley, who was unanimously elected, returned thanks in a few humorous remarks, and then spoke as a "theoretical student" about the development of bee-keeping. He alluded to a supply of 50 tons of candy, available from the Government, which he said would, if divided between the counties, represent nearly £3,000 apiece, and advised the Association to "put their orders in now." Giving figures of feeding and produce, he said:—

A profit of £1 to £2 per hive could easily be earned, and a cottager who kept four or five hives would be more than able to pay his rent on them. He hoped it would be widely known that cottagers could become members of the Association and enjoy all its privileges—questions answered, information given on all practical matters, and two visits a year from experts were among the benefits—for the price of 1s.

He supported bee-keeping because it produced a valuable and essential food: because bees were beneficial to fruit-growing, it having been proved that there was a great increase in crops in neighbourhoods where bees were kept; and thirdly, because more honey produced at home would mean a smaller quantity sent to this country from abroad (there was £1,380 worth imported last December), which would be a very good thing. (Hear, hear.)

Mrs. E. K. Mynors, the hon. secretary, presented the sixth annual report, which referred to the prevalence of the "Isle of Wight" disease, and stated that the apiaries which had escaped were in the minority. For this reason the membership had declined. The stocks examined were 204 in the spring and 216 in the autumn; 25 cases of "Isle of Wight" disease and 39 of foul brood were reported in the first tour, and 20 and five respectively in the second. Much useful advice and practical help was given by the experts in their endeavours to stamp out the disease. As to the harvest, with the exception of a few weeks in the early summer, the honey season was disappointing until well advanced, when a most unusual honey-flow for the time of year began; some bee-keepers, indeed, experienced the best harvest of an excellent quality for years past. The Committee acknowledged the indefatigable and useful services of Mr. Arnfield and Mr. Phillips, and the report also gave the welcome information that the Board of Agriculture was conducting an experiment in connection with the "Isle of Wight" disease. The Board is testing certain drugs which are claimed to be a cure, and by periodic use to act as a preventative; and the results will be known at the spring examination of stocks.

The Rev. H. B. Mynors presented the accounts, which showed £46 receipts, including £29 18s. for 125 subscribers. The expenses, smaller than usual (prizes not being given chiefly owing to the absence of shows), left a balance to the good of £5 17s., in spite of an overdrawn balance of £8 the previous year. This was felt to be very satisfactory. Mr. C. T. Pulley proposed the adoption of the accounts and the report, which he said was a very practical one, and the Rev. K. O'Niell seconded. The Chairman before the motion was carried, remarked that the Education Committee gave the grant because they felt the work the Association did was invaluable. The conditions of the last two years had impressed upon people in the country the value of bee-keeping in a way which it had never been possible to do before. Mrs. Mynors, he continued, was very much to be congratulated on having turned an overdraft into a credit balance; and as one who had the pleasure of working with Mrs. Barneby in public, he could say that she was one of the most able ladies he had come across, and he was certain that Mrs. Mynors inherited some of her abilities.

Mr. T. Preece (Ross) and Mrs. Robinson (Lynhales) having resigned as vice-presi-

dents, Mrs. Drage (Rhodd Court, Presteign) and Mr. F. R. James (Hereford) were elected in their place; the remaining vice-presidents were re-elected, as were the hon. secretary and hon. treasurer, on the motion of the Chairman, who said Mrs. Mynors was the life of the Association. (Applause.) Miss Barneby, Mr. J. Harris, the Rev. H. E. Knight, Mr. C. Sankey, and the Hon. Mrs. Wilmot (who has moved into Worcestershire) retired from the committee, and in their stead Mrs. Bankes (Much Birch), Mrs. Fox Edwards (Caerwood, Presteign), Rev. R. P. Dansey (Kentchurch), and Mr. A. S. Wood (Vowchurch) were elected. The remaining members were re-elected. As delegates to the B.B.K.A., Mrs. Mynors and Mrs. Clowes were chosen. The whole of the local hon. secretaries, with the exception of the Rev. H. E. Knight (removed from Thruxton to Holmer) were reappointed, and after a hearty vote of thanks to the Chairman, another unanimous vote was passed to Mrs. Mynors and the hon. treasurer for their invaluable services, on the proposition of the President, seconded by the Rev. G. W. Turner. The customary draw for a hive resulted in the Rev. W. O. Wait, Titley, being the winner. Mrs. Bankes, Miss K. Hawkins (Lugwardine), Mr. J. Patterson, and Mr. J. Harris were also present at the meeting.

NEW FOREST BEE-KEEPERS' ASSOCIATION.

A meeting was held at the Vicarage, Boldre, on Saturday, February 10, to form a New Forest Bee-keepers' Association. The meeting was well attended by a great many bee-keepers and others interested. It was unanimously decided to form an Association, and the Lady Gertrude Crawford was elected president, and Mr. Bright, who is well known as a bee-keeper, hon. secretary and adviser to the Association, to whom all applications for membership should be submitted. At the close of the meeting Mr. Bright gave an address on "Isle of Wight" disease, showing how it can be prevented. The honey imported from foreign countries for the year 1916 was valued at no less than £187,292.

KENT BEE-KEEPERS' ASSOCIATION.

A PLEA FOR INTENSIVE BEE-CULTURE.

The Council desires to draw attention to the urgent need of increasing the production of honey. The present national crisis demands that our home resources for the production of food supplies be developed to the utmost, and bee-keepers must fulfil their part.

It is estimated that about 5,000 tons of honey was imported last year, and as the Government have now found it necessary to restrict the importation of many varieties of food-stuffs (probably including honey), there is certain to be a great shortage. It is up to bee-keepers, therefore, to exert themselves in an effort to make up, to some extent at least, the deficiency of foreign and Colonial supplies, for it must be remembered that honey can replace sugar both in domestic and commercial uses.

Members and others who possess bees are earnestly urged to develop them for honey production to the greatest extent, and the Association desires to help in every possible way. To obtain the maximum results it is recommended that the question of artificial increase in stocks be left in the hands of the Association, who are in the best position to carry out this special work. By means of their organisation they are able to breed from selected stocks with the least expenditure of effort and loss of valuable time.

The reorganisation programme has now been successfully completed, and it is believed that it will be the means of greatly stimulating the industry throughout the county. A number of lectures and demonstrations are being arranged in different centres at which members can obtain instruction from practical and experienced bee-keepers.

The demand for bees, although now very great, will become increasingly so as the season advances. It is believed that the three breeding apiaries established under the Re-stocking Scheme will go far in supplying the demand, but undoubtedly many more colonies could be utilised than it will be possible to produce from the material available.

The amount of nectar (honey) wasted in our orchards and fields year by year for want of bees to collect it is lamentable, and under existing conditions this loss cannot be tolerated: it therefore behoves bee-keepers to be up and doing, and to spare no effort to secure the maximum possible production.

In Kent there are unparalleled opportunities for the development of apiculture, and our efforts now will determine to a very great extent the future status of the industry in the county.

* * *

A lantern lecture will be given by Mr. W. Herrod-Hempsall on Saturday, March 10, at 7 p.m., in All Saints' Church Room, New Eltham. Subject: "Bee-keeping for Profit." The room adjoins

the railway station. A hearty invitation is extended to all interested.

GEO. W. JUDGE, *Hon. Sec.*
Barrowdene, Shepherds Lane,
Dartford.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

'IZAL AND FOUL BROOD.

[9422] In your Journal of November 9 last, Mr. S. Simmins refers to my failure to cure foul brood with Izal, as stated by me in a previous communication. He thinks I "failed to realise the instructions given by" him, hence my failure. Now, the instructions for treatment as laid down by Mr. Simmins in his book (pages 104 and 105) are so simple and clearly stated that it is impossible for any person of ordinary intelligence to make a mistake in endeavouring to follow them. As the experiment was conducted (as I stated) at the Government apiary on two colonies during the whole of one season as an official experiment under my own supervision, with the object of officially reporting the result for the benefit of our beekeepers, it may be taken for granted that Mr. Simmins's instructions were carried out to the letter.

In order that the treatment should be impressed upon the minds of the several cadets we had at the time, I had the instructions copied from the book and pasted up inside the honey house. I fully agree with Mr. Simmins that re-queening, especially where the reigning queen of an affected colony is past her prime, has a very marked effect with regard to the clearing out of disease in the early stages of an attack. I may further state that I believe the reason the State apiary was so little troubled after we made a big effort in 1908 to clear it of disease by treating at one time the whole of our 72 colonies on the McEvoy plan, was owing to our system of re-queening every second season, and vigorously cutting out at all times any queen found to be weak or defective.

Mr. Simmins says that I admit Izal is a "powerful" and "reliable" disinfectant. I certainly did not use those adjectives, which convey the idea that I think Izal superior to other disinfectants; we always use one or the other of the known disinfectants in the apiary, but I have no evidence of one being better than another, therefore, I have no particular choice.—I. HOPKINS, Auckland, New Zealand.

CANE SUGAR v. HONEY.

[9423] I am not an experienced beekeeper, but am a physiologist, and it seems to me that candy or syrup made simply from cane sugar is but a poor substitute for the honey that is the bees' natural food.

Here is a scientific fact. No living thing, either animal or vegetable, can live on sugar alone. The reason for this is that while it contains carbon, hydrogen and oxygen, it lacks the fourth most important ingredient of protoplasm, viz., nitrogen.

Animals *must* derive their nitrogen ready built up for them into protein. There is protein in honey, doubtless in the proportion best suited to the bee.

If we feed bees ever so plentifully on sugar, it will be seen from the above facts that we are partly starving them, and all that time they must be losing strength.—"IGNORANT PHYSIOLOGIST."

HIVE CONSTRUCTION.

[9424] I am very much interested in the correspondence on Hive Construction in the B.B.J., but there is a point which to my mind is an important one which does not appear to have the attention it deserves. I mean as regards the ventilation of the hive. Our forefathers carried on the business very successfully, if more crudely than we try to do in these days, and they do not appear to have been troubled much with "Isle of Wight" disease. Can it be possible that our modern hives, minus ventilation, as they are, are responsible for this disease, and if so would it not be worth the thought and attention of those learned in the craft and science involved in bee management?

Our forefathers appear to have confined their attention to the skep, and when this is compared with a modern wooden hive the matter of ventilation must be all in favour of the skep. I almost feel inclined to get some panels of skep material made and try the experiment of a brood chamber with three sides enclosed with this material, and see if this would help to solve the problem from which so many of us have suffered and failed—the "Isle of Wight" disease.—AMATEUR.

BRITISH BAR-FRAME HIVE AND COMMERCIAL BEE-KEEPING AND LEGISLATION.

[9425] The interest taken by your various correspondents in the above subjects shows, I think, that all bee-keepers are not satisfied with things as they are, and especially so with regard to legislation, which is a good sign.

I should like to say how heartily I agree with Mr. Pratt [9417] for his chiding Mr. Woodley in his article "Notes by the Way," for it is very apt to give the impression to the uninitiated that legislation is not so urgently needed as most of us think, and I must add that the standpoint taken by Mr. Woodley seems hardly in accordance with his profession. What would he say if he heard of a case of anthrax in which the owner of the infected animals absolutely refused to take any precautionary measures as laid down by law? Especially if he had close neighbours keeping cattle. If we have legislation for cattle breeders—why not for bee-keepers? As all able bee-keepers are aware, it is not the bee-keeper *proper* for whom we require this legislation, but to bring those careless or ignorant, obstinate or indifferent—whichever you will—"keepers of bees" who, by the way, cannot keep them with "Isle of Wight" about) into proper line, and compel them to reduce the danger of infection by doing away with their "died out" skeps and old box hives. "Old Dick Welch" would have to take up that rotten old skep, and so save Mr. Woodley much needless expense in the way of outlay for disinfectants and medicines for his own bees, by way of precautionary measures, to say nothing of time and labour.

It is, in my humble opinion, the lack of real live interest in the great majority of bee-keepers that has failed to procure us legislation. I do not mean by this that they do not desire it, or agree to it, but that they leave it to others who, perhaps, take a more active interest in affairs to bring the proposals forward. Unfortunately, it would appear, the general run of bee-keepers are of a quiet, easy-going disposition. I have read somewhere that the up-to-date, hustling business man would not make a good bee-keeper, and I can believe it, as regards manipulating, at any rate, but if we could get a few of their breed on a central committee, they could tackle all sorts of business problems which the average bee-keeper would not bother his head about, such as organising for better prices, regular markets, advertising, and even for new inventions and improvements, and they could take up this legislation work for us and approach the "powers that be" in the proper way to get things done.

Mr. J. W. Mason [9420] puts the case for legislation very forcibly, but none too strongly, but seeing the present Parliament has given its word "not to introduce any contentious legislation during the war," I am afraid we are up against it for "the duration."

With regard to the various patterns of hives put forward, I cannot see much advantage in Mr. W. Ion's pattern [9421]. I should say it would be likely to get blown over in winter, unless pegged down with a cord over it, and from a commercial point I do not think it would be any cheaper than having separate lifts, as at least 50 per cent. stocks never carry more than two supers at a time, so the extra height would be waste of material. The W.B.C. in sections can be made as short or as tall as one wishes.

Mr. Hodgson, in his lecture reported on pages 54-55, particularly mentions the mild winter, and the trouble in wintering successfully. Perhaps if they used W.B.C. pattern hives the bees would be quieter, as the hive body would be double, making it a little cooler and quieter.

It appears to me the plea for cheaper hives (which cannot be so durable) might find a parallel in stating that as it is proved that human beings can live in comfort and health all the year round in caravans and tents, or even caves, we should all revert to that style of habitation. The only complaint against the "W.B.C." hive that I will allow, is that as the outer cases must be larger than the internal fittings, it costs a trifle more for wood, but even this is set off by the extreme simplicity of the design, the veriest tyro could make his own if he had a pattern to go by. But the cheapest way to go to work is to buy them in the flat, not only saving time (and energy), but avoiding cutting wood to waste in error.

I should like to point out that my suggestion of giving extra brood chambers *under* the original to prevent swarming, is not my own idea, and would refer Mr. Fielden to pp. 242 and 247 of Mr. Simmins' "Modern Bee Farm." In reply to query about perforated zinc getting propolised over, I have never found it so, nor heard of it. Of course, the perforations must not be very fine.

I am afraid when Mr. Fielden tries his "compromise" pattern, that he will find his trouble of keeping the bees under control is quadrupled in comparison with the "Conqueror," as he will have all four sides exposed during manipulations instead of the back only.

By a peculiar coincidence I had designed a feeder for use with the W.B.C. hive on the principle mentioned by Mr. Fielden, of feeding under the stock with a Canadian pattern feeder, my idea simply being an adaption of that pattern to the size of the brood chamber, made like an eke, with an open space left unoccupied in the front for an entrance to and from the hive. This would only be used in autumn for feeding up for winter, as practised by Mr. Alexander.—F. M. CLARIDGE.

HOMES OF THE HONEY-BEE.

APIARIES OF OUR READERS.

Mr. W. C. Peck.

In response to our request for a few notes on his bee-keeping experiences to accompany the photograph of part of his apiary, the following account has been sent by Mr. Peck. He is evidently a bee-keeper of the right stamp, keen and intelligent, who not only knows how to secure a good crop of honey, but also how to dispose of it to the best advantage.

It is about nine years since I first started bee-keeping, but I did not have more than two stocks until about six years ago, and I have always been most interested in having anything to do with them.

I make all my own hives in my spare time (winter evenings).

This is in the midst of a fruit-growing district, and I find the honey harvest is early, and just here the honey flow is over by the time the raspberries have finished flowering.

I had been very successful with my bees (British Blacks) until the autumn of 1915, when they contracted the "Isle of Wight" disease, and by the spring they were all dead. I made a fresh start after having scorched out all my hives, and up to the present the bees all seem quite healthy. I am using Bacterol and Izal, which I hope will give satisfactory results.

My largest take from one hive is 202 lbs. of extracted honey. I have also had 105 well-filled sections from one hive, and during one season I have sold £30 worth of honey (mostly wholesale) from 12 stocks. I might say I find no difficulty in disposing of it; honey will always sell if put up in an attractive manner, in nice jars, with own label. I work principally for extracted honey, using the drone base combs. I have also made a three-framed observation hive to take three sections on top, which has been most instructive and interesting; each year when it has been working the bees have built queen cells, and as soon as the first queen has hatched the bees have balled the old queen and turned her out, and the young queen has destroyed the other queen cells.

MR. W. C. PECK'S APIARY.

I have also had the good luck to witness the mating flight of the virgin queen, who was nearly a month old before this took place owing to adverse weather; she was away from the hive only a matter of a few minutes, and after about two days she commenced laying and soon filled the hive with eggs and larvæ of all stages again.

We have no Bee-keepers' Association connected with this district, and I would gladly welcome one, especially as we are in the midst of a fruit-growing industry; there are several bee-keepers in the neighbourhood, and I believe if the fruit growers only knew more of the good the bees do for the pollination of the blossom there would very soon be a hive or two in each garden.

I should like to see the Bee Diseases Bill passed. I always look forward to the BRITISH BEE JOURNAL, which has greatly helped me.

Wishing all bee-keepers a successful season,

WILLIAM CECIL PECK.

Twyfordbury, Elm, Wisbech.

ECHOES FROM THE HIVES.

EARLY MANIPULATION.

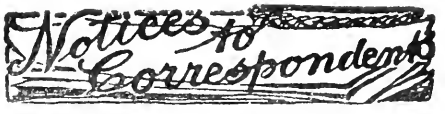
There is no need, if one reads their JOURNAL carefully, to warn fellow-brothers in "hives" of the sad tragedies which occur to some of our little friends at this time of the year. I have just paid a visit to my apiary, my first for 20 months, and found one such case, with stores of honey, but no winter passage way, and being an extra cold year the bees were starved: the remaining six stocks were very strong, although mortality seems above the average. I transferred one colony, as they seemed so damp, and the poor dead bodies outside of brood box, through bad packing last summer, shows that death comes to many even then through carelessness. Otherwise the queen seemed to be laying well, and I hope no harm will ensue from the somewhat early turn out, which they resented just a wee bit. I fancy, though, after a long stay in, a shake up in reason has its benefits, as there seems an enormous amount of waste matter collected. I can hear of no cases of "Isle of Wight" disease locally.—A. H. HAMSHAR, Wonersh, near Guildford.

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

TRANSFERRING TO NEW COMBS.

[9058] I shall be glad of your advice on the following:—I have three hives of bees in *home-made* bar-frame hives on standard frames. Two of the hives have not had the brood chamber touched for several years owing to my being too busy to attend to them at the proper time; they have always re-queened themselves, and seldom swarmed. I usually find time to feed them well, and they winter well. I put a queen exeluder on, then a box of shallow frames, and take a few combs off each hive and extract whenever I have time. The stocks are strong, and I believe quite free from disease. The brood chamber is in a bad way as you must know; there are twelve combs in one hive, and ten in the other. I tried to cut some out last year after the honey season in order to put in some fresh frames with foundations, but it was not a success, and the job was too big for me to do in one season. I tried a lift with standard frames, thinking they would fill them with honey which I could extract, and then use combs in the brood chamber, but the bees did not take to them. I now propose to make new body boxes for each hive, and later on to lift the present box on to the top of the new one, which I should fill with standard frames and foundation, or some drawn-out comb from my shallow frames, then at the end of the season drive the bees down and take the old frames off. I shall be glad to know if this plan is workable; if not, what is best. I have time now, but not later. When the bees are busy, I am also.—"NOVICE."

REPLY.—Your plan will work all right. It is better, if you can manage it, to place a queen exeluder between the two sets of combs when the bees and queen have taken possession of the lower ones, and they contain eggs and larvæ. Make certain the queen is in the new brood box before putting the exeluder in position. In about 22 days all the brood will have emerged from the old combs. A super clearer may then be placed under them, and when the bees are cleared out the old combs may be removed and dealt with.



"BEGINNER" (Devon).—*Size of Brood Box.*—As supers—both shallow frame boxes and section racks—are made to cover ten standard frames, it is usual to work with that number. If the brood box is large enough to hold twelve frames the division board may be drawn back when manipulating; this gives ample room to withdraw and replace combs without crushing the bees. It is also an advantage to be able to add one or two more combs during the summer, in order to give the queen more room, and thus help to check swarming. The only disadvantage is that the hive is a little more cumbersome.

Prevention of Swarming.—It is not always possible to prevent swarming. Give plenty of ventilation, and do not allow the bees to become

crowded, but put the supers on a little before the hive becomes overcrowded. Should they swarm you may take away the old queen and cut out all queen cells but one, add another super, and return the swarm, or if the queen is a young one, cut out all queen cells, add another super, and return the swarm and queen. A swarm should be fed for a week, or if the weather is unfavourable, until they are able to forage for themselves. Give syrup made of 1lb. sugar dissolved in three-quarters of a pint of water, use a bottle or other slow feeder. You will have a difficulty in getting pure Carniolan bees and we advise you not to get them if you do not want swarms. You cannot do better than procure bees in the immediate neighbourhood if possible.

B. V. DE R. MARTIN (Hants).—*Stocks or Swarms?*—As you wish for good results—by which we take it you mean honey—this year you had better get established stocks. See advice to "Beginner" above. There are very few districts free from disease.

"CORRECT" (Lincs.).—*Using Super Foundation in Shallow Frames.*—You may use it, but it must be well wired. Great care will be needed in embedding the wire, and also when extracting the honey.

Making Honey Vinegar.—We can send you a pamphlet on this for 2½d. Briefly, it is made from a solution of one part honey to eight parts hot water—rain or soft water is the best. Place in an open vessel and when it has cooled to 70 or 80 deg. Fahr., add a little yeast; cover with muslin or cheese cloth to exclude insects, etc., and keep in a temperature as near 70 deg. Fahr. as possible. It will be sour in from six to eight weeks but will improve with age.

F. N. S. WRENCH (Crewe).—*Disinfecting Hives.*—Burn the dead bees combs, frames, and quilts, scorch the inside of the hive with a painter's lamp, or paint out with a strong solution of Izal or Bacterol and water. Also wash the outside with disinfectant, and when dry give a couple of coats of good oil paint. You may disinfect the extracting combs, but it is much safer to melt them and use new frames and foundation.

MISS L. A. PAGE (Gravesend).—Your best plan is to join the Kent Bee-keepers' Association, and thus get in touch with bee-keepers in the district. The secretary is Mr. G. W. Judge, Barrowdene, Shepherds-lane, Dartford.

"CUEAM" (Surrey).—*Making Syrup from Candy.*—It is not necessary to add vinegar to prevent the syrup from granulating, but you may add half teaspoonful to each pint if you wish, and also a little salt say, a small saltspoonful. (2) Yes, if it is not granulated. (3) Not absolutely necessary, but if you do not use the excluder there is a risk of the queen going up and laying eggs in the sections. We prefer to use an excluder. (4) A calico quilt is usually considered the best.

"S." (London).—A new edition of A B C and X Y Z was to be ready by February 1, but we have not heard whether it has yet been published.

Suspected Disease.

M. YATE ALLEN (Doncaster).—The bees have been dead a long time and were too dry for diagnosis. We should say your theory of queenlessness is correct. You may use the combs for a swarm, the bees will clear the mould off. It is probably a little mouldy pollen.

"NOVICE" (Brinton).—The trouble is "Isle of Wight" disease. Remove the floorboard, clean it down, burning the dead bees and dirt, etc., wash it with a strong solution of Bacterol or Izal and water dry off the surface moisture and replace. Keep the hive supplied with Apicure (4 or 5 tablets) and Naphthaline. Medicate all food, and sprinkle the ground round the hive with quicklime occasionally.

J. MCD. W. (Hamilton).—The cause of death was "Isle of Wight" disease. Burn all the contents of the hive.

"GOOSEBERRY" (Bath).—The symptoms you describe are those of "Isle of Wight" disease. Do not close the hive but give as much ventilation as possible, only keep a sharp look out for robbers. See answer to "Novice" (Brinton).

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Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per work as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ¼*in., or* 5s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WANTED, two W.B.C. Hives, secondhand.—Particulars to J. MERRICK, Small-lane, Fishponds, Bristol. d 7

WANTED, Extractor, 2 or 4 frame, geared, must be rustfree, and in good working order; also "Conqueror" Hive, guaranteed free of disease.—PURSALL, 144, Hill Top, West Bromwich. d 8

WANTED, four 28lb. tins of English Honey; good price paid.—A. E. WARREN, Bee Cottage Simpson, Bletchley. d 9

WANTED, geared Extractor, Ripener, and Strainer.—E. G. ROBERTS, Moor View, Ivybridge, Devon. d 10

WANTED, several Skeps of Bees, guaranteed healthy.—HIGGS, Northrode, Congleton. d 11

BEES wanted, in skeps, guaranteed healthy.—LOXLEY, Northfield Birmingham. d 12

WANTED, two Stocks of Dutch or English Bees, free from disease; state price.—J. BROOKS, Winthorpe, Newark-on-Trent. d 13

BEES.—Wanted, Stock or Nucleus, 16 x 10 frames preferred but not essential.—"COMMERCIAL," "BEE JOURNAL" Office, 23, Bedford-street, Strand, London W.C. d 14

WANTED, Visiting Expert for North Derbyshire.—Apply, SECRETARY, Derbyshire Bee-keepers' Association Derby. d 15

POTATOES wanted, in bags, carriage paid to Port Talbot; state quality, price, and quantity.—F. O. RICHARDS, Nythfa Aberavon. d 16

WANTED, 2 cwt. finest Honey; send price and sample.—W. A. WILLIAMS, 4 Victoria Arcade, Swansea. d 17

BEE Hives wanted, good condition; particulars.—BEE, 73 Lewin-road, Streatham S.W. d 1

FOR SALE, five modern W.B.C. Hives, with stock box, ten drawn out combs and three 6in. lifts to each hive; fourteen Shallow Frame Boxes, with frames wide ends, drawn out combs, on drone base foundation one W.B.C. section rack, roofs canvas covered and sundries; all newly painted; perfect condition; price £7 10s.—ALLWOOD, 32, Osborne-street, Leek, Staffs. d 4

FOR SALE, a pair of diagrams "The Anatomy and Physiology of the Honey Bee and its Relation to Flowering Plants," drawn by the late F. R. Cheshire, mounted on linen, 30s.—BRITISH BEE JOURNAL Office, 23, Bedford-street, Strand, London, W.C.

SIX W.B.C. hanging frame section boxes with dividers, unused, soiled, 4s. each; 50 ordinary pattern section racks, 1s. 3d. each.—"X Y Z." "BEE JOURNAL" Office, 23, Bedford-street, W.C.

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Pte. M. E. Varty, St. Anne's Lane, Castle Donington, Derby.—3rd Training Res. Batt., Rugely Camp.

SEASONABLE HINTS.

Bee-keepers will by now have been able to take stock and note how their bees have fared during the winter. This may be done without disturbing the brood nest. On a warm day just turn back the quilt, using a little smoke to keep the bees down, when the number of seams of bees may be noted, and some idea gained of the amount of food left. If any hives have shown no sign of life, when bees have been flying from others, look at them *after* the others have been examined. It may be that the entrance is choked up by dead bees and *debris*. If so, lift the brood box gently from the floor-board, and clean the latter down. Put naphthaline and apicure in all hives, as a preventive of disease. Where food is needed give candy till about the end of the month. Pea flour may be added to it now, at the rate of about 1½ oz. pea flour, or 2 oz. wheaten flour, to each pound of candy. Where colonies are found dead, the cause should be ascertained if possible: If there is no food in the hive, and every cell of the combs covered by the cluster contains a dead bee, head foremost in the cell, the verdict may be death from starvation. The best of the combs may be saved for future use, those that are old, misshapen, or pollen clogged burned, the hive cleaned out, and as a precaution washed out with a strong disinfectant, then left exposed in the open air or an airy shed until the smell has disappeared; when thoroughly dry it may be painted, and will then be ready for another colony to be transferred to it later on when spring cleaning, or for a swarm.

If the bees are found dead with plenty of stores, disease may be suspected. It is a safe rule, under these circumstances, to assume that the cause of death has been "Isle of Wight" disease, and take measures accordingly. There may be soiling of the combs and hive, or there may be none, but it will be found that in most cases the abdomens of the bees will have a swollen, or "full" appearance, and if gently pressed a *thick* brown matter will exude from the anal opening. The bees, combs, frames, and quilts should be burned, and the hive disinfected by scorching with a painter's lamp, or painting out with a *strong* disinfectant.

If a decision as to the lines to be followed during the coming season has not been arrived at, the matter should be decided without delay, so that a settled policy may be pursued from the beginning. The main points are whether to concentrate on working for bees—that is to increase the number of stocks—or honey production, and if the latter, whether comb or extracted honey. Probably the majority will vote for honey, and it will be advisable this season to work more for extracted than comb honey.

There may be a difficulty in procuring sections owing to the import regulations. It is more difficult to keep honey in sections for any length of time, and its use is practically confined to the table. Extracted honey will, if properly ripened and stored, keep indefinitely, and may be used in a variety of ways in place of sugar, and as the bees have not the amount of comb building to do as in sections, a greater weight of honey will be secured. Once the combs for extracting are made they will, with reasonable care, last for years. The frames and foundations should be procured, and the frames put together and wired as soon as possible. The foundation may also be put in the frames and if a large number this is advisable, but if put in just before placing in the hive it is more pliable and has more aroma, and the bees take to it more readily. Our preference is for drone comb in the shallow frames. There are not so many cell walls, and therefore less wax is needed; the honey extracts easier, and it gives play to the instinct of the bees to built drone comb without the disadvantage of crowding the hive with useless drones.

A WONDERFUL CITY.

THE LIFE STORY OF THE HONEY BEE.

By Oliver G. Pike, F.Z.S., F.R.P.S.

(*Continued from page* 62.)

CHAPTER VII.

THE MYSTERY OF THE SWARM.

As just mentioned, the Queen has been laying a vast number of eggs each day, and when the full supply of honey begins to be carried into the hive, there are very few empty cells in which to place it, and these are quickly filled. Those which do not contain honey have either an egg, a grub, or sealed larvæ within the cells, and the Queen, still eager and anxious to go on laying, runs about the walls of the City, searching for space in which to lay her eggs. Her attendants, or ladies-in-waiting, run after her, and a great commotion takes place in the interior. The temperature, which is already very high, is still further raised. The young bees, which are daily leaving their cells, add to the already over-crowded colony, and the whole City seems overflowing with bees. The hive is, in fact, too prosperous, and this is exactly the condition in which the successful bee-keeper likes to have his hives: for if the size of the hive is now increased, and more room given to the bees, they very quickly fill this extra space up with honey. But if the bees are left to themselves, as is too often the case, a very different thing happens. The Queen is crying out for more cells in which to lay eggs; the heavily-laden Workers, which are returning from the flowers in their thousands, are anxiously searching for more room, and, not finding it, a strange and wonderful event takes place in this City of wonders.

A mysterious power seems now to seize the Queen. She has worked in the darkness of the hive for many months, and now this power tells her she must desert the home that she has peopled. She has done her duty as a giver of life; she has brought into existence since she last looked on the sun, two hundred thousand Worker-bees, and, perhaps, over one thousand Drones. She has given to this City of golden wax a great population, and now she and her Workers, which have laboured all these weeks, must leave, and the enormous quantities of stores will never be tasted by them—all is for future generations. Surely a strange law this, but it must be obeyed. About thirty thousand Worker-bees go to the cells of honey, plunge their heads in and take their fill of the sweet food, or sufficient to sustain them for four days. Then, when the morning sun is rising towards the zenith, the bees, with a joyful hum, pour out of the hive in what looks like a ceaseless stream. The Queen, who for so many weeks has lived in the gloom of the hive, once more goes out into the flower-scented air, and joins the vast numbers flying around. She, not used to a long flight, soon settles on a branch close to her old home. Imagine thirty thousand bright-winged insects flying around in a circumference of about sixty yards. The air is full of them; a loud, far-reaching hum is heard, not an angry buzz, but a pleasing sound, as though these little people were sounding their note of joy. It is the only hour of idleness known to them throughout their short life—one brief holiday in a brief existence. No wonder, therefore, that they give out this happy sound, and fly with joyful speed, now here, now there, and as we stand near or underneath them, and look up, it is as though there was a curious chequered carpet of moving bees above. Nearly every leaf has a bee settling on it; they are searching for their Queen. The bees nearest to her cluster around and call the others to them, and slowly this multitude gathers to her. The space covered by the flying bees becomes less, and we see a golden brown bag of living bees being formed before us. The cluster grows, and fewer bees are flying, the happiness of their note ceases, and what a few minutes before was a terrifying spectacle to a stranger is now a scene of peace, and instead of a noisy crowd of insects, there is just a cluster of bees all silently packed together on a branch.

In the time of our forefathers it was the custom to "ring out" the bees when they were swarming, and, indeed, this custom even now prevails in many country districts. When my own bees have swarmed, some of the farm labourers near, being attracted by the loud buzzing and cloud of bees, have remarked: "You should ring them out." It is difficult to get at the origin of this strange custom. To ring them out, it is not necessary to have a bell; any old can, kettle or tray, beaten vigorously with a stick, is supposed to have the power of hurrying out the bees, and also to make them cluster more quickly. But noises of all kinds have been proved to have no effect on bees: if a gun is fired close to a hive, the ingoing and outgoing workers will not take the slightest notice. I think the most feasible suggestion of the origin of this custom is the following:—In the early days of bee-keeping, the men-folk would often during swarming time be working in the fields, and their wives, who were at home, used to ring a bell, or make some other noise, to attract the notice of their husbands, as a signal to let them know the bees were swarming in the cottage garden.

But let us return to the swarm we left hanging on the branch of an orchard

tree. Either before the bees settle, or after, a certain number of scouts are sent out to search for a new home. Sometimes if empty hives are available in the apiary the scouts will visit these and return to the swarm, and presently all the bees leave the tree and fly off to their new home. But it is more often the case that the scouts will fly great distances and carefully search old trees with large hollow cavities with small entrances. Others will carefully go over the roofs of old buildings, while another will look at a decaying wall in the hope of finding a hole that would make a suitable home. Then the scouts, having discovered a place suitable for the construction of another City, all hurry homewards, or to where the swarm is still silently hanging. They go straight to the cluster, and who can say what strange communication takes place between them and the clustering bees? Do they go directly to the Queen and induce her to follow them to the place chosen, or do they communicate the situation of the new home to their companions? I think it must be the former, for where the Queen goes the others follow, for, after leaving the hive, the Queen first settled on one branch, and when the bees had almost gathered round her she flew to an adjacent branch, the bees leaving one twig and going to the other. However, at a given signal, as it were, all suddenly leave the branch, spread out, fly around for a short time until all have left the tree, and then go straight off over the flowering meadows, over hills and dales, flying past villages maybe, or over country towns; but straight they go, like a small travelling cloud, until their chosen home is reached. Then, clustering at the entrance, they all walk soberly in, instantly set to work to clean out their new apartments, and the construction of the new City is at once begun. They seem to have forgotten their old home, with all its stores; their thoughts are not of the past. All their energy is given to the future, and their native City is forgotten. Try to imagine what this means. It is like a large human colony deserting all their stores and setting out into a strange country with nothing; going there to seek their fortune or perish in the attempt. And many of these swarms which thus return to Nature are lost. If the weather should suddenly turn cold or wet, so that none of the thirty thousand Workers can go out and forage for food, the whole number perish. Should the Queen be lost in the time of swarming, as sometimes happens, the whole army of bees will return to the hive they have left, knowing well that without their Queen or mother they would be helpless; for, although they could construct a new City without her help, they could not people it.

CHAPTER VIII.

THE CONSTRUCTION OF THE NEW CITY.

The art of bee-keeping has made such advances during a quarter of a century that when a bee-keeper takes his swarm from the tree and places it in a hive, there is not so much work for the bees to do as there was in days when they were accommodated in what some think were the more picturesque straw skeps. The home now prepared for the swarm has ten waxen frames, or rather wooden frames, with a sheet of wax attached to each, hanging side by side in the hive. These wax sheets have the bases of the cells stamped in them, and all the bee has to do is to draw these out and in a fortnight the walls of the City are as complete as in the one they left. If they had been housed in a straw skep or any other empty home the City would not be constructed in less than a month or six weeks.

These articles, however, deal with the life history of the Honey Bee, and not with modern bee-keeping, so we will follow our swarm to its new home. We will presume that it has chosen some convenient cavity like an empty straw skep, and we will then follow the building of the new City from the first layer of wax to the time when it is complete.

Not a moment is lost after the bees are inside. They begin their formidable work at once. The scavengers of the colony instantly survey the interior of the new settlement. Every loose and useless particle is taken outside; larger obstacles are tightly sealed down with a kind of glue made from the resinous substance collected from pine and other trees. If it is only a small piece to fasten, the glue is used almost in its pure state; but if a large piece is to be sealed, small particles of sand and wax are added, and a much coarser cement is made. All entrances, with one exception, are usually carefully sealed over with this cement. Supposing there should be a snail, or some other large objectionable thing in their home, the scavengers of the City will, if they cannot remove it, make a mixture of wax and propolis, the name given to the glue just mentioned, and they hermetically seal this object over with this air-proof mixture. I have known a dead mouse to be treated in this way, and no evil smell could possibly pervade the hive, for this wonderful cement is quite proof against any such calamity happening. If there are two objects side by side the scavengers and sculptors show what good workers they are, for instead of building separate coverings they make one wall in the centre and utilise it as a support for both domes.

(To be continued.)

BEE SYRUP.

When syrup is wanted for spring feeding, 1lb. cake of bee candy should be taken, broken up and melted with 15oz. (by measure) of hot water. When candy and water are thoroughly mixed together the mixture should be allowed to cool, and is then ready.

In preparing syrup for autumn feeding, only 10oz. of water need be used. Bee candy, 5lb. in a box, can be obtained from Messrs. James Pascall, Ltd., 100, Blackfriars Road, London, S.E., who are making it under arrangement with the Board of Agriculture.

HIVE CONSTRUCTION FOR AMATEURS.

By Mr. C. F. Gee.

(Continued from page 63.)

The dovetailed joint for the construction of hives is, in my experience not suitable for outside work, and I have found the butt joint to stand equally well in resisting the weather.

In assembling and handling the various parts the amateur has much more control over his work by using the tongue and groove joint than is the case with the butt joint, moreover, the tongues and grooves, if cut correctly, ensures the work being put together perfectly square, which is very important in hive construction.

It will be noticed that the plinths are bevelled and the several lifts rebated to receive same; the upper rebate being sunk 1-16 in. more than the lower, thus ensuring an easy fit. These plinths should be well painted and mitred at the time of fitting, and be secured by screws from the inside.

Two-inch oval brads should be used in assembling the various parts; they should be well punched in and the holes filled with putty.

As a guide for the saw in making the tongues and grooves tack a strip of wood along each square line where a cut is required, and by using a small-toothed tenon saw a perfectly straight cut is easily made. It is necessary to take care that the saw does not make a deeper cut than $\frac{1}{4}$ in., and if desired a gauge to regulate this depth can be employed.

In making the groove the wood between the two saw-cuts should be removed to the required depth with a $\frac{1}{4}$-in. firmer chisel. The tongues are more easily made as one saw-cut only is required on the flat side of the material, and if a gauge line is run along the edge of the board and lightly tapped, the corner piece will usually come away, if not, a sharp chisel run along will finish the tongue properly.

When cutting the legs it should be remembered that by reversing the templet the bevel is correct for the next, and so on, consequently there is no waste of material.

The thickness of the wood for the hive walls and inner fittings should be $\frac{5}{8}$ in. (finished) stuff, the floor-board, alighting board and roof being $\frac{1}{2}$ in. (finished material). A 9-in. alighting board gives the bees ample freedom during the honey flow. *(To be continued.)*

CONTINENTAL TRIP.

A comrade and I, after spending a fairly well-off time safely ensconced in the roof of a house, somewhat draughty, but dry, began, like the bees, to get over our winter quarters, and to take a part in the more serious job in hand. One amusing incident happened, though. Having occasion to purchase some onions from a farmer, who was a skeppist, and had a few skeps standing on a rickety stand as high as himself, and who also was extremely portly, the good lady of the house couldn't get the scales to work to her liking, and after I had carefully balanced the sack by the aid of grains of wheat and sticks, gave the whole concern a violent kick, upsetting the whole box of tricks, so then we came back to guesswork, which we accomplished, and parted smiling.

After a journey by car and being in a train some four or five hours we arrived at a station about five miles from where we started, reaching our destination one morning at 2.30 a.m., and found we had 18 miles to walk before breakfast, which we accomplished about 12 o'clock with various degrees of efficiency. We settled down and provided sandbag shelters, etc. About the third day we had some neighbours, whose choice was not so lucky, as "Mr. Sausage" was able to peer over the valley, and direct some "souvenirs" which, however, everyone left without acceptance, and by moving a few hundred yards we found cover and made ourselves comfy with what materials we could beg, borrow, or take. Our work lay some three or four miles away, but food was fairly plentiful, and if working at night we generally rested the next day, so we passed along fairly well. Some excitement when the shells were aimed over our heads, in watching the lorries, men and horses passing a high place; they appeared to be knocked out, and you may be sure of the relief felt when out of the smoke and dirt we saw a hurrying mass passing to comparative safety.

During a five-day experiment "tack," we were billeted at a farm where "Joan of Arc" was imprisoned. A large, dark

place with no windows, and a fine Gothic ceiling, a unique prison for so doughty a champion, if not exactly superbly fitted for one of the finer sex.

We returned and divided forces, and were able to visit the town of ———, which contained a splendid cathedral, which has suffered immensely. At the tower hangs an enormous effigy of the Madonna and Infant, some 12 ft. high, which has dropped to an angle of 60 deg.; it appears to be solid brass, and the mother seems to be making a last pathetic appeal for someone to save the child from the debris below (this has since been secured). Just the other side is a large factory, filled with twisted machinery, bricks, hundreds of bicycles and sewing machines, and brings home to one the awfulness and ridiculousness of war, at the wanton destruction of two such monuments of Peace and Industry.

We were now impatient, and expecting the "push." Artillery seemed to get more and more deafening, and one day we slipped off at night, and after a few days we travelled back with our four-footed friends. I and mine had established quite an affectionate regard for one another. He was rather shy, though, and dispatched one fellow to England, but I shall be a long time before I forget the way he turned and looked after me when I had been sick a day or two. I don't suppose we shall meet again, though it seems awful work for horses to do, although they get on for food better than in the South African campaign, and can get at times a good, green feed, and water is more plentiful, which is "half the battle." A. H. Hamshar.

MAKING MEAD.

Seeing your reply *re* the above in November 9 issue, which arrived at the moment I was looking over proofs of what I had written on the same subject for the February number of the *New Zealand Farmer*, I thought it well to send you an advance copy to deal with as you may think fit. I may mention that what I have therein stated and advised is the result of over thirty years' experience in making mead, during which time I must have made at least 1,500 gallons. I have some at the present time several years old that would scarcely be distinguished from a dry sherry by a connoisseur.

I would strongly advise substituting the hydrometer for the egg or potato in testing the strength of the liquid for mead or vinegar; it is at best only a rule of thumb business, as the strength differs according to the size of the disc of the floating egg showing above the surface, and may vary 50 or even 100 per cent., whereas there can be no mistake with the hydrometer. I have at the present time about 100 gallons of mead in the making, also rather more than the same quantity of honey vinegar.—I. Hopkins, Auckland, New Zealand, Jan. 10, 1917.

From "N. Z. Farmer," February, 1917.

BY-PRODUCTS OF THE APIARY.

In all commercial apiaries there is bound to be more or less honey that cannot be marketed, nor very well be made use of for ordinary home domestic purposes, such as that contained in bits of broken combs and utensils used in the honey house. Such honey is often wasted as not worth bothering with, but I can assure my bee-keeping readers that every scrap of it may be made profitable use of and substantially increase the balance on the credit side of the ledger. Mead and vinegar are the principal by-products to which otherwise waste honey may be converted into with the addition of water only. Teetotalers may object to making any liquid for consumption containing alcohol, in which case all such honey can be converted into marketable vinegar for which there is a good demand at a profitable price.

MEAD.

Honey mead (Latin, Hydromeli) is one of the most ancient fermented drinks known, and was very highly prized by our ancestors, especially by the inhabitants of Northern Europe. Metheglin, Miodomel, and sack mead, which we sometimes read about, are all variants of the same thing—mead—made in slightly different ways and of varying strength. In some forms it is drinkable in a week or two after it is made, and in others it is not at its best till it is two or three or more years old. It is about 35 years since I made my first mead, and some is in the making at the present time. I have followed the same simple process all through with success, and believe that I cannot advise a better method. The only ingredients required are honey and water, in the proportion of 4½ lbs. of the former to one gallon of the latter. When making use of broken combs containing honey, just dump them into the water to be used for the mead, and let them soak for a day or two, they can then be squeezed and the wax removed. The washings of the honey tank, extractor, etc., should be utilised. Now, as the amount of honey obtained in this manner and mixed with the water cannot be weighed, there is a way by which we can ascertain when the necessary proportions are correct without weighing, that is, by the specific gravity of the liquid. Twaddle's No. 2 hydrometer (this is "made in Germany," so try to get a corresponding English one) is suitable, and

the liquid should register 1.115 sp. gr., or near about, to be correct.

The casks needed should be sound and thoroughly clean; second-hand oak casks that have recently contained spirits, whisky, or brandy, are the best, and need no cleansing. The size should be in accordance with the quantity of mead to be made, as the cask or casks should be kept as full as possible. Supposing the quantity to be 18 gallons, then one 18-gallon and one 36-gallon cask will be required. Knock one head out of the larger cask, and stand it somewhere under cover. Make in this 20 or 21 gallons of the liquid, using rain-water if obtainable. Stir it well, and cover with a clean sack to keep off the bees and flies. If left alone fermentation will start in two or three days, or, if a little yeast be put in, fermentation will start at once. After it commences a dirty-looking brown scum will rise to the surface. This should be skimmed off every day, and be thrown away. Immediately after each skimming stir the liquid well with a wooden paddle. Gradually the scum will change in colour from a dirty brown to snow white, which usually takes a little over a fortnight, by which time fermentation will have slowed down. When the movement in the liquor has all but ceased it may be run into the cask. There will be more than the cask will hold. The balance should be put into a jar or small keg, and be kept for filling up the cask from time to time.

Make two small linen bags about six inches square, half fill them with sand, and place them over the bungholes in place of the bungs. The liquor will still go on fermenting slightly and generating carbonic acid gas, which, if there was no vent for its escape, would, if the cask were bunged tightly, either blow it out or burst the cask. The bag of sand over the bunghole will allow the gas to escape without letting air in. *The best time to make either mead or vinegar is in the warm months, January and February, so that by the end of April the generation of gas will be very slight. The cask can then be bunged down, but a small spile hole should be bored close to, into which put a spile that can be withdrawn once a week or so for a moment to let any gas escape.

*During the following August, in cold weather, the liquid should be strained through two or three folds of stout linen or felt bag, into which put a little "asbestos filtering medium." Have your bag ready, then run off two or three gallons of liquid, into which mix, say, a quarter-ounce of asbestos. Then put this through the bag; the asbestos will stick all over the bag, and form an excellent filter. If there is a clean cask on hand put the filtered liquid into it; if not, it must be put into something until all is filtered, when the cask can be washed and the liquid returned. If the liquid, after filtering, is nice and clear, nothing more need be done to it until it is bottled off, but the longer it is kept in the cask the better it will get.

A sample of some 600 gallons I made gave the following analysis when three years old: Specific gravity, 0.9800; absolute alcohol in weight, 13.15 per cent.; ditto in volume, 16.24 per cent.; proof spirit, 28.46 per cent.

There is no need to boil the liquid, as some do, and the liquor can be drawn off from the cask for filtering without disturbing the lees, by making a syphon out of a length of rubber tubing, the end to go into the cask being tied to a rod three inches above the lower end, and lowered gently into the cask. The main thing while the mead is maturing is to fill the cask and to keep it tightly bunged to exclude air.

HONEY VINEGAR.

This is fermented in exactly the same manner as for mead, but the proportions of honey and water should be 1¼lb. honey to each gallon of water, which gives a specific gravity reading of 1.040 at a temperature of 60deg. Fah. Do not ferment in the same cask used for fermenting the mead liquor, unless it is not going to be used again for mead; keep everything separate and a good distance apart, as the ascetic bacteria in the vinegar would ruin the mead if it got in. Mead should be made and be kept under cover, while vinegar can be made and matured in the open. Skim the ferment as for mead, and, when the ferment has about ceased, prepare a cask or casks (clean wine casks will do) by boring a 1-in. hole in each end in a line with the bunghole, just under the end of the bung stave. The cask can be filled up to these holes, but in the case of vinegar making it does not matter how much is in the cask. When the liquor is in the cask the end holes and the bunghole should be covered with some open material—not metal—that will exclude flies and moths, but will allow a circulation of air through the holes. When making mead the air must be excluded, but when making vinegar we need a free and constant circulation of air over the liquid, which takes place through the holes.

Vinegar goes through two fermentations—first is when the saccharin matter is converted into alcohol, and at the close,

[* These times refer to Australia, and for this country should read July and August instead of January and February, October instead of April, and March instead of August.—EDS.]

when exposed to the air, the second or ascetic acid ferment commences, aided by oxidation of the liquid by the atmosphere. the ascetic acid bacteria, as I understand, exists on the alcohol, and when that is all consumed another change takes place. The vinegar plant which forms on the surface of the liquid, often called the "mother of vinegar," commences to sink, and from that time the vinegar, if not drawn off, begins to deteriorate. Honey vinegar, giving 5 per cent. ascetic acid test, is an excellent article. Some I started last March now contains by test nearly 3½ per cent. ascetic acid; I expect it to be ready for bottling at the end of the coming autumn. Honey vinegar gives salads and pickles a delicious flavour and is excellent for general table use. It sells well and is profitable to make. It can be readily coloured to any desired tint with caramel.

Before bottling, vinegar should be well strained, as in the case of mead, and should any filmy sediment show up afterward, it would indicate that some portion of the "vinegar plant" is present. This may be eliminated by heating the liquid in a closed vessel to 180deg. Fah. and again straining it.

CORRESPONDENCE

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

REARING A QUEEN IN A HIVE CONTAINING A FERTILE QUEEN.

[9426] I wonder if any of your readers have ever tried getting young queens hatched and fertilised from a strong colony in the following way:—

Use an ordinary 10-frame W.B.C. hive, with frames hanging parallel with entrance, and two brood boxes, one above the other. Get the cells built and sealed in another colony, and when sealed go to the "doubled" W.B.C. hive and remove one comb from the *front* of the lower chamber. Place next to the entrance a comb of maturing brood. Put in a queen excluding dummy, leaving space enough for another comb between it and the front comb. Behind the excluder place a comb of young brood. Now draw back the top box the width of two combs so that its front edge fits down on the top of the excluder dummy, and cover the space in front with a strip of calico and two or three pieces of felt or other material.

The space under the back of the top chamber is filled by standing a wide 2-frame winter dummy on the floor-board behind the combs in bottom box. This gives a chamber of two combs in the front of the bottom brood chamber, excluded from the queen. Leave the hive like this till next day, when the frame with queen cells can be inserted. The young queen will hatch out and get mated from the front entrance in the usual way, and can be easily removed without disturbing the main brood body of the hive.

Such a method could not be used in any ordinary hive (unless it were one of the old pattern long, or combination hives without restricting the old (or presiding) queen, but by having two brood chambers she still has eighteen combs to work on.—F. M. Claridge.

HIVE CONSTRUCTION.

[9427] I have read with interest all the letters *re* hives in the B.B.J., but have seen no suggestion of a bungalow type, and the only objection I can see to it is that it would take up more ground space. By bungalow I mean one in which the supers or boxes for extraction combs would be placed at the sides and back of the hive instead of above it. It seems to me that by this means the bees would be saved time and trouble, because it would be quicker, less laborious for them to walk along the level than to climb up the hive into the supers. I should feel much obliged if you would tell me what other objections you see to this kind of hive beyond the one I mention above.—F. E. B.

[The type of hive you mention was tried years ago, and a book published in 1832 by Mr. Thos. Nutt describes the system and the hive which he designed and named "Nutt's" Collateral Bee Hive." Later, Messrs. Abbott brought out their well-known "combination" hive, in which the surplus was stored behind the brood nest, and a rack of sections could also be placed above it, but there are very few of this type of hive in use now. The objection appears to be on the part of the bees, who prefer to work upwards rather than laterally. The heat from the bees—as from any other source—rises, and therefore supers placed *over* the brood combs are much warmer than if placed at the side, and are much more readily taken to by the bees.—Eds.]

QUERIES AND REPLIES.

DORMANT, OR DEAD?

[9059] (1) I'm afraid I have just committed a grave error with one of my two colonies of bees. I have kept them alive and well through the winter, but a few days ago I opened one of the hives to see to supplies, and found "a city of death." All the bees were in clusters on the combs except a small number on the floor, but all were dead. I thought they were frozen. I have just brushed them off the frames, etc., and disposed of them, but yesterday the JOURNAL told me in the "Wonderful City" article, that the new sunbeams were awaking the bees from their dormant condition, and I have since wondered if I have sacrificed my bees in their dormant condition, thinking they were dead. I have recovered a few of the corpses, which I aem sending for your opinion. Can you tell me if I did wrong? I may say their stores were in plenty.

(2) Can you also tell me, is the Worcestershire B.K.A. Branch still in existence, and how can I find it?

(3) Also, when and where can I replenish my stock with a new lot? I have another hive that seems to have the shadow of death upon it; it is very quiet and still.—DISAPPOINTED.

REPLY.—Bees do not become so dormant during the winter that they show no sign of life. No doubt the bees were dead, otherwise there would have been some movement. (2) Yes. The Hon. Sec. is Mr. J. P. Phillips, Spetchley, Worcester. (3) Get a stock or swarm in the vicinity if possible, or you can apply to one of the dealers in bees and appliances who advertise in the JOURNAL, and bees are at times advertised in the prepaid advertisement column.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

"M. G." (Bromley).—We are sorry, we do not. If you communicate with Mr. G. W. Judge, Barrowdene, Shepherd's-lane, Dartford, the secretary of the Kent B.K.A. (which we advise you to join), he may be able to help you.

Suspected Disease.

E. H. PATERSON (Manchester).—The bees were too dry for diagnosis, but so far as we could see, we do not think disease was the cause of death.

"P. N." (Millom), W. KIRK (E. Yorks).—The cause of death was "Isle of Wight" disease.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per work as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ¼*in., or* 5s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WANTED, geared Extractor, Ripener, and Strainer.—E. G. ROBERTS, Moor View, Ivybridge, Devon. d 10

BEES.—Wanted, Stock or Nucleus, 16 x 10 frames preferred but not essential.—"COMMERCIAL," "BEE JOURNAL" Office, 23, Bedford-street, Strand, London, W.C. d 14

WANTED, 14lb. tin Granulated Honey, for table use.—Sample and price to "HOUSEKEEPER," 129, Westbourne-terrace, London, W. 2 d 27

WANTED, Geared Extractor, Observatory Hive, Bee Shed, and sundries.—BUTTRESS, 199, Milton-road, Cambridge. d 18

WANTED, two Stocks (or Nuclei), Dutch or English Bees, on standard frames, free from disease; state price, etc.—ED. WHITEHOUSE, Newland, Malvern. d 19

WANTED, Bees, in skeps or frame hives, for cash.—SULMAN, Wilburton, Ely. d 20

WANTED, Stocks of Bees, guaranteed healthy, Dutch preferred.—CLARKE, Donhead Rectory, Salisbury. d 21

HEALTHY Bees wanted, on frames.—Price to BROWN, 20, Temple-street, Wolverhampton. d 22

FOR SALE, two young 1916 Nanny Goats, in kid, price 35s. each.—G. A. GILLETT, Moreton-in-Marsh, Glos. d 23

80LBS. nice clean Beeswax. What offers?—A. JONES, Brynafon, Newcastle Emlyn, Wales. d 24

BEES wanted, frame hives, healthy.—FAIRWEATHER, Laindon, Essex. d 25

PURE Cambridgeshire Honey (light), two 28lb. tins, 56s.; sample 4d.; also 20lb. pure Cambridgeshire Beeswax, light cappings, 40s.; sample 3d.—J. YOUNGER, 29, Newmarket-road, Cambridge. d 26

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

3rd A.M., Oliver G. Pike, F.Z.S., F.R.P.S., Duncombe, Hanworth, Tring.—R.F.C., No. 4 Squadron, B.E.F., France.

Mr. Pike is the author of the interesting serial, "A Wonderful City," now appearing in the B.B.J.

Driver J. Chetwood, 1, Bridge Cottage, Newtown, Wem, Salop.—A.S.C. Now in St. David Hospital, Malta.

NOTTS BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual general meeting of the Notts Bee-keepers' Association was held in People's Hall, Nottingham, on Saturday, March 3, when, owing to the unavoidable absence of the Mayor (Councillor J. E. Pendleton) the chair was occupied by William S. Ellis, Esq. There was a very good attendance of members and friends.

The report stated that the year commenced with 247 members, and 18 had joined during the year. Owing to the fact that no show had been held there was a slightly increased balance, which would enable the committee to do more for members during the coming twelve months. In connection with the scheme being prepared, which would absorb the greater part of the money available, the Notts County Council had very greatly assisted by grants, and the Nottingham City Council had again, after a lapse of years, renewed grants for technical education. Great havoc had been caused by the "Isle of Wight" disease; in fact, never of late years had the country been so denuded of bees, with the result that fruit crops had been very deficient and imperfect. All known cases of the disease had been dealt with by the experts, who had burnt up all infectious matter, and it was felt that whilst no cure had been discovered for the malady, the future was brighter in that palliatives were being experimented with and giving satisfactory results. There was a balance in hand of £35 17s. 10d., as against £16 16s. 6d. last year.

"We must never say die," said Mr. W. S. Ellis, proposing the adoption of the report. All things considered, he thought they had every reason to congratulate themselves, for undoubtedly there was strong evidence of vitality in the Association. (Applause.)

Her Grace the Duchess of Portland was cordially thanked for presiding over the Association for the past year, and it was unanimously resolved that she be asked to continue.

The office of General Secretary and Treasurer was again reposed in Mr. Hayes.

The District Secretaries were accorded a hearty vote of thanks for their past services, and were all re-elected.

Mr. Riley was thanked for his services as auditor, and re-elected.

The existing Committee were re-elected *en bloc*, as were also the representatives to the meetings of the B.B.K.A.

At this point the meeting was adjourned for tea, to which a large number sat down.

About 6 p.m. the meeting was resumed, and a drawing took place for those present at tea, and the prizes were awarded to the successful competitors in the classes for honey, which was to be given to the hospitals.

Mr. E. Hollingsworth, of Heanor, having gained his Final Diploma as Expert of B.B.K.A., this was publicly presented to him by the Chairman amidst hearty applause.

Later in the evening Mr. A. G. Pugh introduced the bee-stocking scheme. This he explained in full detail both as regards the advantages of such a scheme and the difficulties that had to be met in carrying it out.

Mr. A. Riley also pointed out why it was called a *bee*-stocking scheme and not a re-stocking scheme—which was that *after* the re-stocking of apiaries under the present shortage of bees, it was intended to continue the apiary as a model and experimental apiary, where members could obtain bees of reliable quality at a minimum of cost, and where lectures and

general apicultural instruction would be given.

After several questions had been put and answered, it was unanimously decided that the scheme be adopted, and that a sum not exceeding £30 be voted to the Bee-stocking Sub-Committee for the initial outlay on the undertaking.

The usual prize drawing concluded a well-attended and enthusiastic meeting.

[We knew our native county was noted for hosiery, but little did we think that they would go so far as to make stockings for their bees. In war-time, too. "Oh, dear us."

Now, then, Northampton, hurry up with a bee-boot scheme.—W. H. H.]

SOMERSET BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

Ravages of the "Isle of Wight" Disease.

The annual general meeting of the above Association was held at the Royal Clarence Hotel, Bridgwater, on Saturday afternoon, March 10, the President (Mr. T. W. Cowan, F.L.S., F.G.S., F.R.M.S., of Taunton) occupying the chair. There were also present Lieut.-Col. H. F. Jolly, of Bristol (chairman of Council), Messrs. L. Bigg-Wither, of Wells (Hon. Secretary and Treasurer), L. E. Snelgrove, H. J. Rudman, Lovegrove, Hole, W. Withycombe, H. Grist, W. Heard, B. Boothroyd, J. Wood, J. Willie, T. Perrens, Mrs. Reynolds and Misses Smith.

The minutes of the last annual meeting having been read and confirmed, the Hon. Secretary and Treasurer presented the annual report and balance-sheet for the past year. The report was as follows:—

"The adverse conditions which prevailed in 1915 still continue to oppress the bee-keeping industry in this county. The 'Isle of Wight' disease has taken further toll in several districts, where in the previous year stocks had been reported as healthy. Several fresh remedies have been tried, one or two of which have given promising results, but it is not yet possible to say with any certainty that a really permanent cure has been found. Weather conditions and not drugs may have been largely responsible for many apparent cures. It has, however, we think, been conclusively proved that certain strains of bees, if not actually immune, are more resistant than others. Unfortunately the old black bee seems less able to withstand the ravages of the disease than the Italian hybrid. Owing to the fact that so few of our old members possess any bees and that many are away fighting for their King and country, the number of subscriptions received for the past year was 163 only, compared with 235 in 1915, and 345 in 1914. The total subscriptions amounted to £33, out of which £20 4s. 7d. had been paid to the visiting experts. Again, several of these have given their services free of cost to the Association. 1,100 honey labels were sold during 1916, 3,100 having been sold the previous year. Two more of our visiting experts have joined the Army, viz., Mr. J. W. Heard, of Yeovil, and Mr. F. W. Owen, of Churchill, near Bristol. Owing to existing conditions it was not considered advisable to hold the usual Annual Honey Show. The British Bee-Keepers' Association's preliminary examination was held at Mr. Withycombe's apiary, Bridgwater, on August 3. Mr. S. Jordan kindly undertook the work of examining. Mr. S. A. Bradbury, our only candidate, was successful in gaining the certificate. The Association suffered a sad loss last April by the death of Mr. J. W. Brewer, of Bath, who was one of our oldest members and was a most regular attendant at all meetings, and his valued work for the Association will always be remembered, more especially in the Bath district, where for many years he acted as honorary secretary and visiting expert. Mr. Brewer was always ready to give advice and practical help to beginners in bee-keeping, and nothing was too great a trouble where the interests of the Association were concerned. All who knew him feel that they have lost a sincere friend. Much sympathy is felt for his widow and children. Mr. Brewer held the first-class expert's certificate of the British Bee-Keepers' Association, and was one of the lecturers on bee-keeping for the Somerset County Council. Mr. W. Prescott kindly undertook the duties of visiting expert and honorary secretary for the Bath district during the past year. The honey season of 1916 was in most districts excellent. It was especially remarkable for the length of time that the white clover flow lasted. The weather during May and June was not favourable and very little surplus was gathered during these months, but from early in July right up to the middle of August the honey came in continuously and more than compensated for the failure from the earlier sources. Many bee-keepers who put on supers at the beginning of August were able to take them off completely filled a fortnight later. We have no previous record of such a late crop of white clover honey being secured. It is sad to think that in most districts this nectar ran to waste owing to the absence of bees. Owing to the general scarcity of honey the price obtained by those bee-

keepers lucky enough to have any was about 25 per cent. above the usual. Everywhere the demand was greater than the supply. In consequence, foreign honey of inferior quality had a greatly increased sale in most of the larger towns. Once again the Council tender their grateful thanks to all the local honorary secretaries and visiting experts who have, under great difficulties, helped on the work of the Association, and it is earnestly hoped that in a few years' time bee-keeping in Somerset will once more become a flourishing industry."

The balance-sheet was also presented, and showed a balance in hand of £19 16s. 10d., compared with £24 19s. 6d. the previous year. Mr. Bigg-Wither pointed out that for the first time the Association had lost about £5 on working expenses, whereas hitherto they had always made a profit. He believed, however, there were a few more subscriptions to come in.

The Chairman, in moving the adoption of the report and balance-sheet, remarked that they could be considered favourable, having regard to the times the country was passing through. They had to cut out their annual show last year, and there had also been a reduction in the membership. All societies were feeling the effects of the war very much, and many who usually subscribed found it impossible to do so now. Many bee-keepers had also become discouraged owing to having lost their bees through the disease and had dropped out in consequence. A great deal of voluntary work had been done, and their thanks were due to all who had helped in that way.

Lieut.-Col. Jolly seconded the motion, and it was agreed that the report and balance-sheet be printed and circulated.

The Chairman next proposed a hearty vote of thanks to the retiring officials for their services, and paid a tribute to the excellent work of the Hon. Secretary and Chairman of the Council.

The following officials were unanimously re-elected :—President, Mr. T. W. Cowan; Hon. Secretary and Treasurer, Mr. L. Bigg-Wither; and Hon. Auditor, Mr. R. G. Harris (Wells).

Lieut.-Col. H. F. Jolly and Mr. Eldred Walker were re-appointed as delegates to the British Bee-Keepers' Association.

The following were elected on the Council, in addition to the ex-officio members: Lieut.-Col. Jolly (chairman), Messrs. B. Boothroyd, J. H. Burton, J. W. Heard, J. Hutchieson, W. H. Jarvis, S. Jordan, W. J. Lang, R. Litman, H. Maynard, F. W. Owen, F. W. Penny, L. E. Snelgrove, G. H. Tatham, W. Withycombe, Mrs. Reynolds, and Miss R. Sheppard.

The Vice-Presidents were re-elected *en bloc*.

On the proposition of Mr. L. E. Snelgrove, seconded by Lieut.-Col. Jolly, it was agreed that the names of those members who had not paid their subscriptions be omitted from the list of experts, with the exception of those serving with the Colours, and that the term "expert" be confined to the first-class men.

The Chairman introduced the subject of the re-stocking scheme for the county, and stated that he had received reports from all the visiting experts, with the exception of two, in reference to the bee disease in Somerset. The "Isle of Wight" disease seemed to have been badly prevalent in all the districts. In districts visited by one expert there only remained 221 colonies out of 1,233, in another six out of 220, and another 31 out of 119. In sixteen districts there was not a single colony left. It appeared that in all districts reported there were only 290 colonies still surviving. Generally speaking, bee-keepers were not opposed to having diseased bees destroyed, but there were some who put it off, hoping to cure them, while others did not believe it was a disease. They blamed wasps and the weather, and allowed them to take their chance. Some few, however, did object A few would resent hives being inspected in one of the districts, but, generally speaking, bee-keepers had no objection. Several had re-stocked, and in some districts they failed to stand over the winter. In another district all were doing well with the exception of one. Another district reported that some had remained healthy for twelve months. In some cases bees and combs had been burned and the ground disinfected and dug over, but other bee-keepers had done nothing, and hives had been left for swarms to take possession. In one district hives were occupied by six truant swarms. In regard to re-stocking, bees should not be introduced from other districts, and it would be better to wait for another year until the disease had spent itself, and make sure that the ground and hives had been properly disinfected before introducing colonies. The re-stocking in Kent had so far been successful, and the Somerset scheme proposed was based on that of Kent. The Board of Agriculture experiments had stopped on account of the war. No reliable cure had been found so far for the disease, and experts agreed that it could only be stamped out by the destruction of the bees affected.

In the course of a discussion which followed, Lieut.-Col. Jolly pointed out that the imports of honey into the United Kingdom last year represented no less

than £187,292. He contended that this alone justified the Board of Agriculture in spending money to try and eradicate the disease.

Eventually the following resolution was proposed by Mr. L. E. Snelgrove, seconded by Lieut.-Col. Jolly, and unanihously adopted:—"In view of the shortage of sugar and the fact that the imports of honey for 1916 were more than five times the previous average, it consequently becomes a national duty for bee keepers to produce as much honey as possible, and since it is practically impossible to keep healthy bees owing to the retention and exposure of infected materials, this Association petitions the Board of Agriculture to issue an Order under the Defence of the Realm Act making it an offence to retain or expose infected bees or material likely to convey the 'Isle of Wight' disease to healthy bees."

It was agreed that the resolution be sent to the County Council, with a request that it should be forwarded to the Board of Agriculture.

Following the meeting the members partook of tea.

"BEE-KEEPING UNDER THE SOUTHERN CROSS," No. 2.

By Tarlton-Rayment.

Author of "Money in Bees in Australasia."

The selection of the apiary site and its enclosure with a suitable fence, also the class of hive deemed most suitable for Australasian conditions, were treated shortly in the issue of November 9, 1916. As it is intended in this series to present the information in a popular style, leaving the niceties of technique to the more comprehensive manuals, suitable buildings and a little hive manipulation will now receive attention.

HOW TO OPEN A HIVE.

The honey-season in Australia is concomitant with hot weather—105 deg. is not rare for a shade register. Keeping this in view, some will be surprised at the writer's advocacy of galvanised iron as the best material for buildings for a small apiary in the "bush." Of course, concrete is fine where the operations are extensive enough to warrant the outlay. The great crops are all gathered from

the eucalypts. Miles and miles of gum-trees, together with a prolific growth of native grass, dry as tinder, is a most formidable proposition should a fire start up. The writer is speaking from experience, and plumps for the metal. Aye, and recommends it for the hive-covers. Another point, it is unwise to locate the bee farm on the southern or eastern side of a timber belt, as the most destructive bush-fires are driven by northerly to north-westerly winds.

A honey house, 16 ft. by 20 ft., is large enough for a yard of 50-100 colonies, and it should be at the lowest level of the apiary; this is a desideratum when heavy combs are handled with a barrow or hand-cart. The equipment of the extracting room we will leave for future notice. The weeds and native grass will quickly choke the hive-entrances unless care is exercised, and in this connection the writer finds two old 60 lb. honey-tins, flattened out and laid on the ground, keep down weeds and provide a dry base.

Should the bees be purchased in another district, wire cloth for screens on top will have to be provided. In summer, a second screen will have to be substituted for the bottom board. For transport by rail, the ordinary sheep-truck in summer and a louvre-truck in winter, cannot be surpassed, 140 colonies may be loaded in the former. As a rule, the bush roads are very rough, and bullock-waggons are sometimes employed for hauling.

After the hives are placed on their stands, the entrances should be freed of wire, etc., but the general overhaul would be better postponed for a day or so, until the bees have marked the new surroundings. A day or two later the rest of the packing should be removed, but before opening the hive puff in a little smoke at the entrance to prevent sudden onslaught.

At this juncture, note the queen and clip her wings; arrange the worker-comb compactly. If a flow be on, super-room should be readily available, otherwise the queen will quickly become honey-bound. The second photo* depicts the writer overhauling in the spring. Note the combs of sealed honey. The colonies instead of depleting the stores, actually increased them during the winter, and this is not at all an uncommon occurrence.

SPRING OVERHAUL. PREPARING TO GIVE SUPER ROOM.

Since the bees dislike to remove the honey to the super, combs must be removed and the hive furnished with some empty ones. Judgment is required to effect this without risk. The extraction of the honey from the brood-combs is a tiresome labour, and the writer prefers to keep them on hand, and a month or so later these combs are used in the formation of nuclei. Indeed, a better "division board" cannot be used for this purpose.—GIPPSLAND, Vic., Aus.

(To be continued.)

* These pictures first appeared in "Everylady's Journal," published at Melbourne, to illustrate an article by the author on "Home Industries."

THE LEGAL STANDARD FOR HONEY IN CANADA.

By W. J. Sheppard, Nelson, B.C.

In Canada the following standard of quality was established for honey in 1912 under the provisions of the 26th Section of the Adulteration Act:—

"Honey is entirely the product of the work of bees operating upon the nectar of flowers and other saccharine exudations of plants, and contains not more than twenty-five (25) per cent. of water, not more than eight (8) per cent. of sucrose (cane sugar), not more than twenty-five hundredths (0.25) of one per cent. of ash, and not less than sixty (60) per cent. of invert sugar."

In Section 5 of the same Act it is provided that "Feeding bees with sugar, except for the purpose of being consumed by them as food, or with glucose or any sweet substance other than such bees gather from natural sources, with the intent that the same shall be used by the bees in the making of honey, or, excepting as aforesaid, the exposing of any such substance with such intent, shall be deemed a wilful adulteration of honey within the meaning of this Act."

The penalties for wilful adulteration, under Section 31, are as follows:—"(*a*) If such adulteration is, within the meaning of the Act, deemed to be injurious to health, the person offending, for the first offence incurs a penalty not exceeding five hundred dollars and costs, or six months' imprisonment, or both, and not less than fifty dollars and costs, and for each subsequent offence a penalty not exceeding one thousand dollars and costs, or one year's imprisonment, or both, and not less than one hundred dollars and costs."

"(*b*) If such adulteration is, within the meaning of the Act, deemed not to be injurious to health, the offender incurs a penalty not exceeding two hundred dollars and costs, or three months' imprisonment, and for each subsequent offence a penalty not exceeding five hundred dollars and costs, or six months' imprisonment, or both, and not less than one hundred dollars and costs."

In "An Act to Amend the Adulteration Act" passed by the Senate and House of Commons of Canada, and which came into force on January 1, 1915, it is enacted, in Section 5, that:—

"The word 'honey' shall not be used either alone or in combination with any other word or words on the label or other mark, illustration or device, on any package containing any article of food which is or which resembles honey and which is not pure honey made by bees, and no package containing any article of food which is not pure honey shall be labelled or marked in such a manner as is likely to make persons believe it is pure honey, and any article of food labelled or marked in violation of this section shall be deemed to be adulterated within the meaning of this Act."

"(2) The provisions of this section shall not apply to any syrup or compound manufactured and sold for medical purposes only."

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE BRITISH BAR-FRAME HIVE AND COMMERCIAL BEE-KEEPING.

[9428] After carefully following the correspondence in the JOURNAL on this subject I have come to the following conclusions:—

First.—That I still agree with the main statements of Mr. Kidd (B.B.J., October 26, 1916), while not agreeing with him that a single-walled hive should be standardised (single and double walled hives are used in America) in preference to a hive with double walls. I still support his view that "the British hive-making industry is a parochial affair"; in other words, the bee hives of England are the laughing-stock of the world of up-to-date bee-keepers—however much we may dislike this statement, it is a fact. British bee-keepers who doubt the truth of the above criticism should read No. 9418, February 22, B.B.J., from Mr. Isaac Hopkins, who is, or was, for many years the chief expert in bee-keeping of the New Zealand Government, and his mildly expressed opinions are worthy of consideration.

Second.—British hive-makers are not to blame for the first-mentioned state of affairs, as they are handicapped by the British standard.

Third.—I am in agreement with Mr. Claridge (and the many others who no doubt share his views) over the question of porches, viz., that this is a matter for the individual bee-keepers. The same applies to cleats, flat or span-roofed

tops, hive stands with four wooden legs, or four bricks; yes, and even hives with double or single walls (both kinds are standardised in America).

Fourth.—Practically the only cause of our difficulty is to be found in the English brood frame, and readers should note that I am not attacking the size of the frame itself—that is, the superficial comb area, a subject that would be highly controversial, and for which there is no necessity. The cause of the trouble is those two innocent-looking, protruding ends of the top bar of the British frame (the top bar might be thicker to advantage), and it is in the disposal of those ends wherein the British hive-makers' difficulty lies; solve that problem, and I am quite sure our British hive-makers will do the rest. Double or single walls, top or bottom ventilation, flat or any other kind of covers, porches or no porches, cleats or no cleats, all these things could be left to individual choice, but there must be a standard size frame. The protruding ends of the top bar of the Langstroth frame, as used in our Colonies and America by thousands of bee-keepers, are half an inch long, while those of the English frame are 1⅛ ins. long. The only comment I wish to make on this is that where hundreds of the latter kind of frames are used, probably millions of the former are manufactured, and give satisfaction not only to American bee-keepers, but to thousands of Britishers.

Fifth.—Once again I assert that this question has nothing whatever to do with flimsiness in the construction of hives, as some correspondents seem to imagine. One such, I believe, says he prefers a standard hive that he can hand on to his grandson. What has his grandson done to him? I do not know what he would say if he was compelled, when travelling on business, to ride in his great grandfather's "standard" stage coach. He would no doubt get to his destination all right, but his competitor would have transacted the business first. All the same this correspondent is an enthusiastic bee-keeper, and I am pleased to see he is on the side of legislation for bee-keepers. I only hope he will come round to the views of the great majority of the world's best bee-keepers on the question of up-to-date hives.

With regard to the tracts of derelict land which are being ploughed up, let us hope that when they come to be "seeded down" again—which they no doubt will be after the war, or when the cultivators discover that they have failed to produce a paying crop—that the honey-yielding plants will not be forgotten.

For the benefit of those readers who may not grasp what I mean by the "disposal of the ends of the frames" (a moment's practical demonstration would make it clear, and readers who possess "A Modern Bee Farm" will see the point at once by referring to Fig. 1, page 161, 1914 edition). Let them imagine the two ends of the brood chamber as plain boards, say, ⅞ in. thick, a groove cut in the tops of boards will accommodate the short-ended frame—whether the hive is single or double walled makes not the slightest difference to this—then let any English bee-keeper compare this simple arrangement with the ends of the brood chambers in his own hives, which have to be made to take the long-ended frames, and he will see that the panel arrangement, in comparison with the short-end frame method, is almost the work of a cabinet maker, and I can well understand the man who keeps a few hives of bees for a hobby, and is an amateur carpenter, delighting to make his own hives. But the largest hive manufacturers and bee-keepers in the world (not in England) use the simpler method, but unfortunately English hive-makers cannot use this method owing to the "standard" of the English frame preventing them.—Ernest Simons.

HONEY IMPORTS.

The registered value of honey imported into the United Kingdom during the month of February, 1917, was £16,525.—From a return furnished to the British Bee Journal by the Statistical Office, H.M. Customs.

CLAIMING SWARMS.

[9060] I have several stocks of bees. If they should swarm and go into a neighbour's garden, could I go into the garden to get them without permission if the people should be out, and could I be sued for trespass for doing so? If I ask permission first and I am refused, what could I do in the matter if I lost my bees?—Hazeldene.

Reply.—You can follow your bees, but if you do any damage you must pay for it. If your neighbour refuses to let you fetch the bees you can sue him for their value in the County Court. It is better to make an amicable arrangement, and the present of a jar of honey will work wonders.

Notices to Correspondents

"PYX" (Ashford).—*Disinfecting Hive with Straw Sides.*—It is almost impossible to disinfect the straw satisfactorily. You might soak it with a strong solution of Bacterol, or Izal, and water. Could you not replace the old straw with new, or discard straw altogether and make a wooden box?

"AN IGNORANT BEGINNER" (Cornwall).—*Transferring Small Colony.*—It is somewhat difficult to advise you what to do under the circumstances. If you can get no one to give the bees a little attention during your absence the best you can do is to transfer the bees as soon as possible. Close them up with the division board on to just the number of combs they can cover, leaving the space behind empty, or keep the spare frames in it. You may give them syrup now in your locality, cut a hole in the quilt, and feed a couple of pints of syrup per week. This will allow them to store a little as a safeguard against bad weather later on. Add more combs or foundation as they need more room until you have to leave. Before going away give all ten frames of comb, or foundation, remove the quilt and put on the queen excluder, and a rack of sections; the quilt, of course, is placed on the top of the sections. Wrap all down warmly, and for the rest you will have to trust to Providence.

Miss S. G. (Shifnal).—*Controlling Swarming.*—If you use a swarm catcher the "Brice" is the best. Better make an artificial swarm. This may be done about noon on a warm sunny day when queen cells have been started. Take out a comb of brood on which the queen is found and place it into another hive, filling up with frames of comb or foundation. Remove the old hive and bees to a new location several yards away if possible, and place the new hive on the old stand. All the flying bees will return to this and form the swarm, which will need feeding if the weather is unfavourable. (See "British Bee-keepers' Guide Book," page 93.)

"NEW READER" (Derby).—*Recipe for Mead.*—See BRITISH BEE JOURNAL for March 15, page 81.

F. T. CRAMPHORN (Brentwood).—*Treating Queenless Stock.*—Are you quite sure there is no queen? We have heard of a number of stocks not breeding yet. If the bees cover eight combs the colony cannot be described as "weak." If it is queenless probably the best thing you can do is to keep it going by exchanging a comb for one with young brood from the other hive until you can procure a queen, or a nucleus with a queen to unite to it.

"A. S. B." (Hindhead).—The situation will not be too cold and exposed.

Suspected Disease.

N. T. TODD (Leeds).—The trouble is "Isle of Wight" disease. Add a little water to the honey and boil it, when lukewarm medicate it and feed to the bees. Keep the hive supplied with five or six tablets of Apicure and two balls of Naphthaline.

P. B. H. DESMOND (Hants.).—The bees are affected with "Isle of Wight" disease. The hive will be all right if treated as you suggest. Better burn frames, combs, and quilts.

E. HAWKINS (Sidcup).—The bees were rather too dry for diagnosis, but there was no disease so far as we could tell.

"EBOR" (Yorks).—The bees were too dry for diagnosis. The reason they appeared small was because they were dry and shrivelled.

E. J. OUTRAM (Sheffield).—The bees are just beginning to show symptoms of "Isle of Wight" disease.

"A REGULAR READER" (Surrey).—We are sorry to confirm your fears—it is "Isle of Wight" disease.

B. NOVICE (Norfolk).—The bees are suffering from "Isle of Wight" disease. Use a stronger solution of Izal on the rag, say equal parts of Izal and water. Remove the floorboard, and wash it down with a strong solution of Izal and water, wipe dry with a cloth, and replace. On a warm day spray the bees and combs with the teaspoonful of Izal to a pint of water solution; use it lukewarm if there is brood, and sweeten the water.

"J. H." (Liverpool).—The bees died from "Isle of Wight" disease.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per work as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ½*in., or* 5s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens** **that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

ITALIAN Queens, a limited number, imported direct, will be available for May, expected early, price 5s. each; orders in strict rotation of remittance. — Address, "ITALIANS," "BEE JOURNAL" Office, 23, Bedford-street, W.C. a 01

WANTED, Bees, either skeps or on standard frames, guaranteed healthy.—State price to HEATH, The Lodge, Leydens House, Edenbridge, Kent. d 28

FOR SALE, owing to death of owner, twelve Bar Frame Hives, 12s. 6d. each; twenty-five Shallow Frame Boxes, with frames and combs, 6s. each; fourteen Queen Excluders, 9d. each; seven Super Clearers, 1s. 6d. each; two Uncapping Knives, 2s. 6d. each; Smoker, 1s.; Wax Extractor, 7s.; Section Dividers, 1s. 6d. dozen; Honey Ripener, 8s. 6d. The lot for £10.—MRS. BANKS, Kellington, Whitley Bridge, S.O. d 29

HONEY wanted, guaranteed British; state quantity and price.—GRANT, Huyton, Lancs. d 30

LINCOLNSHIRE Honey, granulated, in 28lb. tins, 1s. lb., cash.—WAIN, Thorpe Bank, Wainfleet. d 31

HONEY for sale, in 28lb. tins. What offers?—A. WILKIN, Pymoor, Ely, Cambs. d 32

ABENDRE. Hives and Appliances, nearly new. Must sell quickly. Particulars on application.—DARBY, Malston, Newton Abbot. d 33

BEES.—Wanted, Stock or Nucleus, 16 x 10 frames preferred but not essential.—"COMMERCIAL," "BEE JOURNAL" Office, 23, Bedford-street, Strand, London. W.C. d 14

WANTED, Geared Extractor, Observatory Hive. Bee Shed, and sundries.—BUTTRESS, 199, Milton-road, Cambridge. d 18

WANTED, Bees, in skeps or frame hives, for cash.—SULMAN, Wilburton, Ely. d 20

HEALTHY Bees wanted, on frames.—Price to BROWN,. 20, Temple-street, Wolverhampton. d 22

FOR SALE, two young 1916 Nanny Goats, in kid, price 35s. each.—G. A. GILLETT, Moreton-in-Marsh, Glos. d 23

80 LBS. nice clean Beeswax. What offers?—A. JONES, Brynafon, Newcastle Emlyn, Wales. d 24

BEES wanted, frame hives, healthy.—FAIRWEATHER, Laindon, Essex. d 25

STRAIGHT TALKS TO BEE-KEEPERS—4.

The talk this week is from a typical level-headed Yorkshireman. It is "red hot" testimony and worth reading twice. Are you still unconvinced?

Copy.

YORK HOUSE, GILLYGATE, YORK.

March 24th, 1917.

Messrs. Bacterol Limited,
London, N.

GENTLEMEN,

In the summer of 1915 I lost nine stocks of bees by I.O.W. disease. In May and June 1916 I procured four healthy swarms. All went well until the autumn, when one stock of twelve frames became affected and quickly dwindled to two frames. Another strong stock started to rob the affected hive, which I closed up as I wished to experiment, the queen being a valuable one.

In three days I sprayed the remaining two frames of bees and queen with sweetened water, adding one teaspoonful of "Bacterol" to the half pint. I then united them to another stock, the queen of which I destroyed.

There was no further sign of I.O.W. disease in that hive, but the stock which had robbed the diseased one began to grow seriously less in numbers, so I subjected them to the same treatment and all went well. **On examining the two stocks last week I found both in perfect condition,** one with five and the other with four frames of brood. I went bee-driving as usual, one stock (a very strong one) would not leave the skep, so I had to cut the combs out and then bag the bees. The same evening I united them to a stock of ten frames in a double hive, and all was apparently quiet, but next morning and three or four days after, dead bees were turned out in hundreds, including drones, until eventually the whole of the driven lot were turned out. You can form some idea of the number when I say they weighed nearly five pounds.

Wondering at this strange conduct I examined several of the dead ones and all had the I.O.W. disease, which I considered would account for their refusal to be driven.

The stock which turned them out developed the disease later, I again sprayed with "Bacterol" and to-day it is covering nine frames with four of brood. **I hold no brief for "Bacterol," but with such results I consider it would be little short of criminal to allow them to remain unknown, while there are so many losing their entire stock of bees.**

Yours truly,
(*Signed*) W. J. GIBBS.

In using "Bacterol," you are employing the most potent bactericide having a definite action on Spores, but which at the same time is Non-Poisonous, Non-Corrosive, Non-Caustic, entirely free from objectionable odours, and possesses many advantages over every other antiseptic and disinfectant.

DIRECTIONS FOR USING GENERAL "BACTEROL."

Medicate each pint of Syrup with 1 teaspoon of General "Bacterol." Stir in when syrup is just warm or cold. See that all stores of honey are removed before giving syrup.

ALTERNATIVE METHOD.—Spray two or three times daily all crawlers on alighting board and in front of hive with a solution of 1 tablespoon of General "Bacterol" to 1 quart of water. Use a mist sprayer, obtainable from any bee appliance manufacturer, not an ordinary syringe.

A 5 per cent. solution sprayed over the hives will disinfect any excreta and destroy all germs and parasites.

Highly recommended, amongst others, by the Editor of the *British Bee Journal* and by the Editor of the *Bazaar, Exchange and Mart.*

It is manufactured by "Bacterol," Limited, London, N., and may be obtained post free by sending P.O. for **2**s. **6**d. for a half-pint bottle from either of the following addresses:—

JAMES LEE & SON, Ltd., George Street, Uxbridge, Middlesex.
"THE BRITISH BEE JOURNAL," 23, Bedford St., London, W.C., 2
E. H. TAYLOR, Welwyn, Herts.

OR FROM

MENLEY & JAMES, LTD., MENLEY HOUSE, FARRINGDON RD., LONDON, E.C.

Will our correspondents please note that our correct address is London, W.C.2 The addition of the figure will help the sorters in the Post Office, and ensure more prompt delivery of letters, etc.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.(2), on March 15, 1917.

Mr. W. F. Reid presided, and there were also present:—Miss M. D. Sillar, Messrs. C. L. M. Eales, J. Smallwood, A. Richards, W. H. Simms, G. Bryden, G. W. Judge, T. Bevan, G. R. Alder, G. J. Flashman, G. S. Faunch, J. Herrod-Hempsall, Association Representative P. A. Cragg (Middlesex).

Letters expressing regret at inability to attend were read from Messrs. T. W. Cowan, E. Walker and Sir Ernest Spencer.

The minutes of Council meeting held on February 15, 1917, were read and confirmed.

The following officers and committees were elected:—

Chairman.—T. W. Cowan.

Vice-Chairman.—W. F. Reid.

COMMITTEES.

Finance.—Messrs. T. Bevan, G. Bryden, C. L. M. Eales, G. S. Faunch, G. W. Judge, J. B. Lamb, A. Richards, J. Smallwood, Sir Ernest Spencer, Mr. E. Walker.

Exhibition.—Messrs. G. R. Alder, T. Bevan, G. J. Flashman, F. W. Harper, J. Herrod-Hempsall, A. G. Pugh, E. Walker, Miss M. D. Sillar.

Publication. — Messrs. T. Bevan, C. L. M. Eales, J. B. Lamb, W. F. Reid, J. Smallwood, W. H. Simms.

Board of Examiners (for Paper Work Intermediate and Final Examinations).—Messrs. T. W. Cowan, D. M. Macdonald, W. F. Reid, Colonel H. J. O. Walker.

For Lecture Test.—Messrs. G. Bryden, T. W. Cowan, C. L. M. Eales, G. J. Flashman, W. Herrod-Hempsall, J. Herrod-Hempsall, G. W. Judge, J. B. Lamb, A. G. Pugh, W. F. Reid, A. Richards, Sir Ernest Spencer, Messrs. J. Smallwood, E. Walker.

Emergency. — Messrs. J. B. Lamb, W. F. Reid, Sir Ernest Spencer.

The following new members were elected:—Mr. F. M. Nelson (Life), Miss K. Long, Miss A. Inglis, Mr. M. Arnold, Mr. F. A. Bahns, Mr. H. Knight-Bruce, Mr. P. A. Cragg, Mr. E. G. Roberts, Mr. E. G. Tremlett and Mr. C. W. Essell.

The following Associations nominated delegates, and all were accepted:—Mrs. Clowes (Hereford), Mr. Hamlin (Surrey), Mr. Clarke (Peterborough), Mr. Hayes (Notts), Colonel H. F. Jolly (Somerset), Mr. F. H. Taylor (Lancashire), Mr. J. Pearman (Derby), Mr. Watts (Kent), Mr. Vallon (Staffs), and Mr. Tidswell (Essex).

The financial report was presented by Mr. Smallwood, who stated that payments into the bank for February amounted to £14 10s. 9d., the bank balance at the end of February being £133 5s. 8d. Payments amounting to £30 13s. 9d. were recommended.

Council meetings were fixed for the third Thursday in each month, except August, when no meeting will be held.

Next meeting of Council, April 19, at 23, Bedford Street, Strand, London, W.C.(2).

HONEY RECIPES.

Recipes in which honey takes the place of sugar will no doubt prove useful to our readers. We give two below. Seville oranges are now to be obtained, and the following method of making marmalade has been given us by a correspondent who has tried and proved it excellent. The salad dressing we have used ourselves, and can recommend it.

Marmalade. — Required, 12 Seville oranges, 6 lemons, 14 pints of water, 6lb. of honey, 2oz. of leaf gelatine. Method: Quarter the oranges and lemons, remove pulp, and tie it up in a net bag. Slice thinly the rinds of both oranges and lemons. Boil all together in the water for 1 hour, then take out the bag of pulp, add the honey and boil for 1½ hours. Dissolve the gelatine, previously soaked in a little water, add to the marmalade, bottle and tie down. Smaller quantities than the above may, of course, be used in the same proportions.

Honey Salad Dressing.—Lemon juice one part, clear strained honey one part, olive oil two parts. Take the juice of two lemons and beat well together with the honey and oil. Add the stiffly whipped white of an egg, salt to taste. If this is too sweet use less honey.

We shall be pleased to receive and publish any other recipes containing honey. Those that readers have tried themselves preferred.

AN ANCIENT COLONY OF BEES.

The photograph here given is interesting, as the bees had been established so many years. We received it from Sir Stanley Edwards who, in a letter, says: "A lady friend writes to me: 'I had the photograph taken last spring. The bees had lived under the eaves for at least 100 years, so I am told, but, unfortunately, last spring they all died: we don't know why. The place has all been cleaned out. The honey was excellent.'"

AN ANCIENT COLONY OF BEES.

KENT BEE-KEEPERS' ASSOCIATION.

Report of Lecture on "Bee-Keeping for Profit," by Mr. W. Herrod-Hempsall, at All Saints' Church Room, New Eltham, March 10, 1917.

"Some hundreds of tons of sugar are being wasted annually in Kent alone, and everybody with a garden could do something to provide themselves with a supply of sugar." Such was the conclusion forced upon the minds of listeners to the admirable lecture delivered by Mr. W. Herrod-Hempsall, F.E.S., to the Kent Bee-Keepers' Association (Western Division) at All Saints' Church Room, New Eltham.

The lecture was very largely attended, and the presence of many who were not bee-keepers testified to the interest which is being generally felt in the urgent necessity of providing the home with sweetening substances. That each one could in great measure solve the question for themselves was the discovery of the evening.

The method of achieving this desirable result, and showing the path of a plain duty was the effect of the admirably illustrated lecture on "Bee-Keeping for Profit."

In his opening remarks, Mr. Herrod-Hempsall pointed out that bee-keeping was a pursuit admirably suited to the cottager and to the residents in the outer suburbs of our towns. Scarcely more than a square yard of ground was required to accommodate a hive, and window-sills had been made to serve this purpose at times. Thereafter the bees themselves manage the business of gathering honey, which is merely grape sugar. In a passing comparison with poultry-keeping, he did not hesitate to say that the balance of all consideration was strongly in favour of bee-keeping. He warned intending bee-keepers that they

were bound to be stung, but very rightly emphasised the fact that bee-stings were very endurable inflictions, and that, further, they were considered to be a good remedy for rheumatism. A careful manipulator is only occasionally stung, and in a short time bee-keepers become immune from the effects of the stings.

Mr. Herrod-Hempsall was emphatic in his advice that all intending bee-keepers should follow the advice of Mr. Dewey (the chairman) in his introductory speech, and join a local association, and stated that he had no hesitation in saying that the Kent Bee-Keepers' Association was undoubtedly, in his experience, the most progressive Association in England to-day. He pointed out that for a modest annual subscription of two shillings the novice had placed at his disposal not only the invaluable services of a most capable adviser and enthusiastic servant in the person of the secretary, Mr. G. W. Judge, of Barrowdene, Shepherd's Lane, Dartford, but could at any time take advantage of the advice of the Association's experts in any difficulty with which he was confronted.

The lecturer said that honey was too often regarded as a luxury. It was not; it was an essential food. In nutritive value one pound of honey was equal to twenty eggs, high in food value though eggs undoubtedly were.

The natural history of the honey-bee—the laying of the egg in the cell, the hatching, the development of the larva, the sealing of the cell, and the ultimate emergence of the perfect insect to take part in the manifold duties of the hive—was briefly outlined by the lecturer, who laid it down that every beginner should make himself acquainted with the life story of his bees. Its bearing on practical work was continual and essential, and its importance could hardly be overstated. Lantern slides, exhibiting points in the life history of the bee, were shown and rendered doubly clear an already lucid account of a most absorbing topic.

But the natural history of the honey-bee was but a prelude to that part of the lecture which was devoted to details of practical management of bees. In the lecturer's opinion the W.B.C. hive was the best hive to adopt. He recommended beginners to make their own, and pointed out that the Kent Beekeepers' Association had a complete set of patterns for every part of such a hive for loan to their members, from which anybody who could handle tools would have no difficulty in constructing an admirable hive.

The best method of starting bee-keeping was with a swarm. This could be purchased during the swarming season. An alternative method, possibly as good, was with one of the special nuclei which the Kent Association were raising for distribution, and this had the additional advantage of known freedom from disease.

The operation of hiving, supering for the honey harvest, removal of honey, closing down for winter, were dealt with in turn, and amply illustrated on the screen at every point. The whole field of practical operations was traversed in its essential points, and everything that a novice needed to know was made abundantly clear. The relation of bee-keeping to fruit-growing was thrown into strong light. Of the total fertilisation of fruit bloom carried out by insect agency no less than 85 per cent. was the work of the hive-bee. A series of graphic slides illustrated this, and exemplified the importance of bee-keeping to the fruit grower. Misshapen fruits, light crops, irregular bearing, were each largely a matter of insufficient bees.

In conclusion, the lecturer exhibited a statement of the actual balance-sheet for one hive set up by a novice. It was as follows:—

	Expenditure.	Honey Crop.
1st year ..	£2 5 11 ..	30 lbs.
2nd ,, ..	1 13 6 ..	96 ,,
3rd ,, ..	18 0 ..	198 ,,
4th ,, ..	16 0 ..	162 ,,
Total ..	£5 13 5	486 ,,

At the very low average price of 6d. per lb. the proceeds for the four years would be £12 3s., or an average of £3 0s. 9d. per year. This result takes no count of the wax produced, a by no means negligible factor.

It seems evident, therefore, that the effects of sugar restrictions can be greatly modified by the extension of intelligent bee-keeping, since there is no purpose for which sugar is used in which honey cannot be used equally well.

A vote of thanks was proposed by Mr. Dewey, and Mr. Bill, J.P., enthusiastically seconded, and, feeling sure that he was expressing the opinion of the many non-bee-keepers present, said that he had nothing but praise for the very high value of the lecture to which he had just listened.

In replying, the lecturer said that it had given him great pleasure to have so large and attentive an audience, and under such circumstances time alone limited the length of his discourse.

Arrangements for the meeting were left in the hands of Mr. Shaw, and the smoothness and ease with which the meeting passed off, in spite of an unexpectedly large gathering, was a tribute at once to Mr. Shaw's energy and ability.

Subsequent meetings will be held at

Maidstone and Rochester, the former on the 24th inst., and the latter on April 21. Further details can be obtained from the Hon. Secretary, Mr. G. W. Judge, Barrowdene, Shepherd's Lane, Dartford.

F. C. H.

A WONDERFUL CITY.

THE LIFE STORY OF THE HONEY BEE.

By Oliver G. Pike, F.Z.S., F.R.P.S.

(*Continued from page* 79.)

There is no waste nor extravagance in this wonderful City. Each strange thing the bees are called upon to undertake they do well, and with the least possible consumption of material. The scavengers search every crevice and cranny, and diligently and perfectly do their work; mere particles of dirt are dropped outside, but other objects, such as dead bees, which accumulate, are carried out of the new home, taken far away, and then dropped. The bees allow no dead matter or dirt in the site they have chosen for the construction of the new City.

But while we have been watching the scavengers, what are the others doing? Directly the crowd entered they walked up the sides, and those that reached the summit of the dome firmly fixed their feet on it. Others following fixed their back legs on the front ones of the first bees hanging from the roof. Still others follow, also to fasten themselves to their sisters. Those at the bottom join hands, as it were, and thus we see many festoons of bees hanging from the roof of their new home. They look like festoons of brown and golden beads. This great dark dome must seem to them to be a vast empty space. Are the bees dismayed at the magnitude of their task? Do they shrink from the feat before them? For they have indeed to build a City literally hanging from the dome; they do not begin at the base like human builders. Do any thoughts of regret pass through the minds of this marvellous people at leaving their home of plenty and finding themselves in this great abode of nothingness? Does a single one of the thousands of workers desert their chosen home? No. Useless regrets like these are unknown to the Honey-bee, and each and every member of the great army goes straight to her allotted task without any show of hesitation, without any murmurings of the greatness and seeming impossibility of the task to be completed.

The strings of bees grow in number until the mass hanging from the roof looks like a compact inverted cone, and here they hang silent and still for twenty-four hours. What are they doing? The uninitiated might think this to be a time of rest, a few hours given to slumber after the excitement of the swarm. But no, this wonderful living cone of silent, still bees is the way they have of forming the material with which to lay the foundations of the new City. If after twelve hours we were to approach the bees, and carefully lift up a layer of this mass, we should see on each bee a number of tiny white flakes being formed. The ancients imagined that wax was gathered by the bees in the same way as honey, and the discovery of the production of wax ranks amongst the most interesting discoveries in connection with the hive. One of the earliest statements about wax being formed on the body of the bee is by J. Thorley in 1764. He says:—"For several reasons after I became a bee master I was very desirous and diligent to find out how or where they brought home their wax, well knowing that gross matter to be of a very contrary nature and applied to some other use, but was not able for a considerable time to enter into the secret. At last, viewing a hive of bees very busy at labour, I observed one bee among the rest, as she fixed upon the alighting place, of an unusual appearance, upon which I seized her directly before she had time to enter the hive, where, with a sensible pleasure, I found what I had till then been in vain searching for. Upon the belly of this bee, within the plaits, were fixed no less than six pieces of solid wax, perfectly white and transparent, like gum; three upon one side and three upon the other, appearing to the eye equal in bulk and gravity; so that the body of the bee seemed duly poised, and the flight not in the least obstructed by any irregularities. Here have I found it at other times, and once I took away eight pieces together, and I know that it was wax, and nothing else."

On the under side of the bee's body there are eight little pockets, and it is in these that the wax is formed. Wax is not continually being produced, but the action is voluntary on the part of the bee. A high temperature is needed, which the bees are able to produce by clustering together, and in this way they raise a temperature varying from 87 deg. to 98 deg. Fahr. These little wax scales take about twenty-four hours to form, and are transparent, very little, and of the palest yellow colour; in fact, almost white. The hind legs of the bee are provided with very perfect pincers, and with these the wax flakes are removed from the pockets, then they are transferred to the front legs, and thence to the jaws.

When these wax flakes are formed, one of the bees will detach itself from the mass and slowly climb over the bodies of its motionless sisters, to make its way to the summit of the hollow sphere. It

walks backwards and forwards, surveys the roof, then, having decided the exact spot wanted, it takes one of the transparent wax flakes in its jaws, and bites it until it is soft and pliable, or until it is in such a condition that it can be "worked." Then we see the bee moving its head backwards and forwards, and lo and behold, as we look we see a tiny white foundation being formed on the roof. We cannot very clearly distinguish wax in the bee's jaws, but we can see the foundation growing very slowly. Is this particular bee a great mistress of statecraft in this wonderful assembly, that she should be chosen to lay the foundation stone of the great City which is so rapidly to spring up? Is she a capable builder, who through experience knows how to commence the erection of the City? I think not. It may be chance that the wax flakes were first formed on her, and that mysterious power that seems to govern Queen and Workers alike, induced her to detach herself from the cluster and to mount to the top of this dark void and to lay the first stone of the waxen buildings which will hang from the roof. If any of the other bees should loiter in her way she shuffles against them, pushes them aside, for nothing must interfere with her labours. When one waxen flake is used she takes another from the little pockets on her abdomen. This is bitten and twisted and turned until it is as soft and as pliable as the former piece. When she has done this, other bees mount to the zenith of the empty space, and the construction of the City now goes on apace. It seems to slowly grow before our eyes. If we draw nearer we see in some of the workers' jaws a thin, silky thread. This is the wax that they are putting down in thin layers, and which with several thousand bees at work, soon adds to the foundation of the building. The first sign of the waxen walls is a few straight lines —the sides of the cells which are nearest the roof. As these lines are made thicker they are given a different shape, being gently bent inwards, and the form of the first cells of all are hardly so faultlessly constructed as those that follow. The next layer of cells will have six sides, and where three walls meet on one side of the comb, will exactly correspond with the centre and base of a cell on the opposite side.

(To be continued.)

Hive Construction for Amateurs is held over until next week, as blocks for illustrations are not yet ready.

The report of the B.B.K.A. annual meeting, and other correspondence is also unavoidably held over.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE IONIC HIVE.

[9429] The subject of hive construction often appears in your JOURNAL, and questions of utility, practicability and cost are usually the main object.

In your issue, dated March 1, 1917, our friend, Mr. Ion, has been good enough to describe and illustrate his "Ionic Hive."

One never wishes to underrate ideas put forward for the common good of fellow-bee-keepers. It is, therefore, hoped that I may be allowed to raise the following questions upon the qualities claimed by Mr. Ion for his hive, and that they will be taken in good part as from a fellow-bee-keeper.

Mr. Ion claims that his hive is "ideal to manipulate because when the back is removed the whole of the supers and brood box are exposed without a lot of loose tops and lifts littering all around"; that the hive "enables one to examine the contents in any weather, being sheltered from both wind and rain," and that the bees and honey are not, therefore, unduly exposed; also, that the case is light and can be easily handled.

I really fail at present to see the advantages which are claimed. To manipulate when the back is removed seems to me to be practically impossible. How could one possibly remove a super which is almost invariably secured by propolis, and requires first the dexterous use of the knife or chisel (and a little patience at times)? Again, to examine the contents of the brood chamber under the circumstances must be a more difficult problem. Each frame would have to be lifted quite clear and away from the brood chamber, which is not often advisable or necessary, particularly in inclement weather, when it is claimed the hive has its advantage. When such a condition of weather does exist surely one would not disturb his stocks.

I understand the disadvantage of "loose tops and lifts littering the ground all around," but is it not bad manipulation when such a state exists? Surely there is

no disorder when the lifts are removed one by one and conveniently tiered at the rear of the hive, or in convenient proximity.

Now as regards the case, it is claimed it is light and easily handled. That being so, is it not also a flimsy structure, being of ½in. matchboarding (which is usually actually only about ⅜in. thick), and being so light I wonder whether our friend has ever found it necessary to secure it against overturning during boisterous weather. Look at its height, which cannot be reduced for stability and compactness in the winter when the supers are away.

Lastly, I wonder whether our friend has had any trouble in entering swarms owing to the nearness of the alighting board to the ground, and the consequent difficulty of a dumping board of insufficient slope to encourage the upward movement of the bees; and does he manipulate many hives, or suffer from lumbago at times?

No, Mr. Ion, I cannot yet see where the advantages of your "Ionic" construction are, and much as I would like to economise in the construction of my hives, such economy must be consistent with practicability, and I have yet to be persuaded that the W.B.C. hive, which has maintained its place against all-comers for many years, cannot still hold its own.—W. H. J. Prior.

RESEARCH ON "ISLE OF WIGHT" DISEASE.

[9430] One reads with regret the recent Parliamentary statement that the Board of Agriculture has suspended investigation into the above vital menace to our craft, which state of inaction on the Board's part appears to be dependent on the absence abroad of the investigator, who hitherto has been carrying out apicultural research. One wonders why a substitute cannot be found among the many gifted scientific women whose services are no doubt easily available in these days of feminine ascendancy. Meanwhile it is interesting to note the growing attention which is being given abroad to this scourge of our bees, and the following extracts from the *American Bee Journal* will no doubt be read with interest by fellow-bee-keepers.

Speaking of the parasite *Nosema apis*, the editor says: "Although the presence of *Nosema* may have influence in helping to cause disease, it is quite probable that only under unfavourable conditions does the parasite have an ill-influence on the health of the bees."

He supports his point of view by quoting from the Journal of the Board of Agriculture for Victoria, Australia, dated October last, which says: "Bees from 88 widely separated apiaries were examined, and the presence of the *Nosema* parasite proved in all but two, one of which was the Departmental apiary at the Burnley School of Horticulture.

"In several instances the bees which showed *Nosema* infection came from apiaries in which no mortality or dwindling ever occurred, and it appeared, therefore, doubtful whether the presence of the parasite in the bees be in itself necessarily fatal, or whether it greatly interferes with the productiveness of the hives, excepting under certain conditions due to climatic influences."

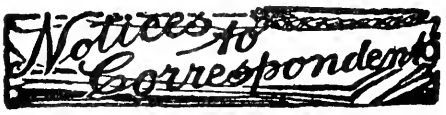
In another leading article the editor refers to the bulletins on "Isle of Wight" disease published by the North of Scotland College of Agriculture, whose investigator came to exactly the same conclusions as those cited above, after extended experiments with various races of bees. It is to be regretted that the Australian bulletin makes no reference to the varieties of bees under observation. Readers of the First Report of our own Board of Agriculture on "Isle of Wight" disease may remember quotations therein of the work of certain Australian scientific bee-keepers, who found black bees far more susceptible than Italians to the disease we know as "Isle of Wight" disease.

In the present conflicting state of scientific opinion as to the origin of this pest, one definite conclusion remains for the practical apiarist—bee-keeping can only continue as an industry in our land if systematic efforts are made to propagate stock from colonies which have shown a strong power of resistance to the attack of this disease—a course of action which has been consistently advocated by the British Bee Journal, and which, happily, our county associations are now taking steps to make a live policy throughout the land.—Red Cross.

MAKING MEAD.

[9431] Further to my article on the simplest method of making a first-class mead (March 15, page 81). It is, of course, admissible to flavour mead with spices, etc., to one's liking, but this is better left to the discretion of the maker, as some flavours while palatable to many people are distasteful to others. When spice flavouring is desired it is best to tie the spices in a muslin bag and simmer them over the fire in some of the liquid for a short time—not long—then add to the mead. I never heard before of the addition of pollen, and "the more the better" improving mead (see page 376, November 30), and I would advise caution in its use, as most pollen has a strong, bitter, objectionable taste; hence we exclude it from honey as much as possible, and I

always exclude it from mead. More honey in proportion to water than what I have recommended may be used in making both mead and vinegar, but they will take longer to mature, and practically be no better.—I. HOPKINS.



A. M. D. DE GROOT (Kent).—*Creosote for Hives in Lieu of Paint.*—It is not advisable to use it. Nothing beats good oil paint.

"A. M." (Suffolk).—*Getting Bees Out of a Hollow Tree.*—It is impossible to give precise instructions without a personal examination of the tree. Perhaps the following method may help you. Of course, you cannot do anything for some time; in fact, until the bees are flying freely. Prepare a small colony or nucleus in a light box. Blow some smoke into the hole by which the bees enter the tree, and erect a platform close to it. Then fix a Porter escape on flight-hole of tree, so that the bees can come out but not get back. Place the nucleus on the platform with its entrance as near the Porter escape as possible. When the bees leave the tree they will find that they cannot return, and one by one will enter the nucleus. In four or five weeks the queen in the tree will have very few bees with her and these can be destroyed by blowing in with the smoker sulphur fumes, after removing the escape. In the course of three or four days the bees in the nucleus will remove the honey out of the tree and store it in the nucleus hive.

"NOVICE" (Wilts.).—*Transferring Bees.*—(1) Take away the combs not covered by bees, place the others to one side of the box, and close up with a division board. Stand the box thus prepared on the top of the new frames (without any American cloth between), cover the tops of the frames exposed in the empty space behind the division board so that no bees can escape. When they have commenced work in the lower chamber and the combs contain eggs and larvæ, place a queen excluder between the two boxes, taking care to confine the queen to the lower one. In about three weeks all the brood in the top box will have emerged, and it may be taken away, and a super put in its place, or the division board, etc., may be removed, and the box filled with combs and used as a super, of course, leaving the excluder in position. The first is the better plan. (2) Take away the queen you wish to replace. Four days later cut out *all* the queen cells that have been started, and introduce a comb containing eggs from the colony you wish to rear the queen from, and allow the bees to raise a queen from it, or make a nucleus from the selected stock and rear a queen in it. Stand the nucleus at one side and a little to the front of the stock to be re-queened. When the young queen is laying remove the old queen and unite the nucleus to the stock. You may do it when drones are flying, say, from about the middle of May. (3) Four or five weeks. (4) As soon as fruit bloom is out.

"CREAM" (Surrey).—*Medicating Syrup.*—As the candy already contains the prescribed dose of Bacterol, it is not necessary to add any more, but do not boil the syrup. You need not be afraid of overdoing it, another half teaspoonful to the pound would not harm the bees.

Use two teaspoonsfuls of disinfectant to one quart of water for hive after healthy bees, and disinfectant one part, water two parts, for infected hives.

"B. F." (Brighton).—(1) The syrup is not too thin for spring feeding, and would do even thinner. (2) Yes, the secretary is Mr. F. Kenward, Berwyn House, Station-street, Lewes. (3) We are afraid not at present.

Suspected Disease.

C. REDFEARN (Gt. Crosby).—The bees were too dry for diagnosis. As there was plenty of food the probability is they died from "Isle of Wight" disease. You cannot insure against disease, but against damage caused by your bees to third parties.

G. BROOKS (Sidcup).—We are sorry to confirm your fears. The trouble is "Isle of Wight" disease.

ENQUIRER (Notts).—The bees were affected with "Isle of Wight" Disease. Thanks for your suggestion; we will do so if possible.

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WANTED, Stock of Bees, on standard frames, Dutch preferred, free from disease; state price, etc.—G. NOBBS, North Lodge, E. Cowes, Isle of Wight. d 41

HEALTHY Bees wanted, Dutch preferred.—CLARKE, Rectory, Donhead St. Andrews, Salisbury. d 42

ITALIAN Queens, a limited number, imported direct, will be available for May, expected early, price 5s. each; orders in strict rotation of remittance. — Address, "ITALIANS," "BEE JOURNAL" Office, 23, Bedford-street, W.C. a 01

BEES wanted, frame hives, healthy.—FAIRWEATHER, Laindon, Essex. d 25

WANTED, Beeswax, also English Honey, also Standard and Shallow Frames, unmade, in flat.—JOHN FLOWER, Morestead, Winchester. d 43

REVIEWS.

A Guide to Successful Bee-Keeping in the Hill Districts of Northern India, by F. S. Cousins, Lieut. (retired), (Lahore: Superintendent Government Printing, Punjab; price, Re. 0—4—0, or 4 pence).—This guide, issued under the authority of the Director of Agriculture and Industries, Punjab, is especially intended for those engaged in apiculture in the Hills of India, as up to the present no such manual for their guidance has appeared. The author has had 25 years experience of bee-keeping, and in this manual he places that experience at the disposal of those who, like himself, are lovers of Nature and desire to manage their hives according to modern methods, while adding a little to their incomes. The guide deals only with practical work, the natural history of bees not being touched upon, and the author has restricted himself to describing those hives, methods and appliances which from practical experience he has found necessary. He mentions how he commenced bee-keeping by cutting out the combs in an outhouse, where a colony of indigenous bees (*Apis Indica*) had established themselves. He uses a modification of the "Cowan" hive with standard frames, which he found best suited the common bee of the Simla Hills. The village hive is designed for building into the wall of a house, and is made to hold nine standard frames. There is a Simla Bee-Keepers' Association, its President being the Director of Agriculture and Industries, Punjab, with Lieut. Cousins as Honorary Secretary. This pamphlet will be useful in stimulating a desire for improved methods of bee-keeping. It deals with the requirements of the indigenous bee of the country, and readers are cautioned to make sure in importing bees from other countries that the source from which the bees are obtained is entirely above suspicion, as at present foul brood and "Isle of Wight" diseases are unknown in India.

Bees, and How to Keep Them, by F. W. L. Sladen (Bulletin No. 26, published at Ottawa by the Government Printing Bureau).—The author is well known in this country, and is at present the apiarist at the Dominion of Canada Department of Agriculture Experimental Farms. The purpose of this bulletin is threefold: To point out the advantages of bee-keeping; to give, very briefly, reliable advice to beginners, and to show to those who are keeping bees in an old-fashioned or neglected way, how their profits may be doubled or trebled by the adoption of modern methods. Mr. Sladen rightly says that "unfortunately, bees are more often neglected than other kinds of live stock. Hidden in their hives they seldom show any outward sign that they need attention, and it is not enough recognised that efficient management of the apiary is well repaid." The honey resources of Canada are very great, as there is an abundance of honey-yielding flowers, with a high average of favourable weather for the production of honey, which makes Canada a good country for the bee-keeper. From personal experience we can testify that the bulk of Canadian honey is of unsurpassed quality. The information given in this bulletin is in concise form, and covers the whole ground of practical bee-keeping. A good deal of space is devoted to diseases of bees in its 56 pages, and there are 40 excellent illustrations. A very interesting and useful chapter is that treating on the principal honey-producing plants with their approximate seasons of yield.

Secretion of Heather Honey, by G. W. Avery.—In this pamphlet the author, who is Lecturer in Bee-Keeping at the Edinburgh and East of Scotland College of Agriculture, gives the results of his observations of bees at work on heather. There are two charts, and a glance at No. 1, shows the very changeable nature of the weather, and the daily gain or loss from August 14 to September 3. With regard to the most favourable conditions of temperature it is noted that on the day on which most honey was stored, viz., 6 lbs., although the sky was cloudy all day the temperature was fairly high, and especially so during the previous night, and this appears to be an essential condition for rapid secretion of honey. When the night temperature falls to near freezing point, secretion fails. The conclusion the author comes to from his observations are:—(1) That a very large quantity of honey may be gathered in a very short time by a strong colony under favourable conditions. (2) A high temperature, especially during the night, is most favourable for nectar secretion in heather. Dry weather also seems to be required. (3) The best hours of the day for secretion are probably from 10 a.m. to 2 p.m. (4) In normal seasons heather probably yields nectar for about three weeks.

BRITISH BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The forty-third Annual Meeting of the Association was held in the Council Room, 23, Bedford Street, Strand, London, W.C. 2, on Thursday, March 15, 1917.

Mr. W. F. Reid presided, and considering the restricted train service and the increased cost of travelling, there was a better attendance than was anticipated. The minutes of the annual meeting held March 16, 1916, were read.

A number of letters expressing regret at inability to attend were read.

In presenting the report the Chairman said:—

All members have received a copy of the report and balance-sheet, therefore it will not be necessary to read that, but a few remarks may give a little better idea of what the Association is doing.

The apiary has now been transferred to the new site at Golders Hill Park, and the free lectures given there have been much appreciated by the public, the bees have wintered well, and it is hoped to continue the good work. The thanks of the Council are due to Mr. Smallwood for the work he has done at the apiary.

With regard to the "Isle of Wight" disease, the outlook is brighter. It seemed impossible for the Board of Agriculture to work on sound, methodical, and open lines. They had adopted a scheme for trying some mysterious treatment, which he (the chairman) hoped might be successful in alleviating the disease. If the Board would only be more open, and consult with those who do understand practical bee-keeping, the combination would in all probability result in some good. As it was, the experiment had now come to an abrupt stop, owing to the scientist engaged on the work going to South Africa to a Government post.

It had been impossible to get the Government to consider legislation, they would not trouble with contentious measures while the war was on.

No Exhibitions were to be held this year, as the Government had put its foot down on anything that required extra transit or man-power.

The honey sent to the hospital had been greatly appreciated, the difficulty was that that appreciation has caused many other hospitals to write for a supply which, unfortunately, it was impossible to give. If the coming season is a good one no doubt a great deal more honey will be given by bee-keepers for this worthy object.

With regard to the sugar scarcity, bee-keepers were indebted to the efforts of the manager of the B.B.J., Mr. J. Herrod-Hempsall, in obtaining a grant of fifty tons for feeding bees. Again the Board of Agriculture went their own way in the matter of distribution, instead of a common-sense one, the result is that the candy sold costs about as much as honey. However, that was not the fault of Mr. J. Herrod-Hempsall, and no doubt it was the salvation of many stocks of those who could afford to pay the price.

A new scheme had been devised to help in the production of food by the distribution of bees amongst the fruit orchards for fertilisation purposes. A grant had been applied for, and the scheme favourably received by Capt. Bathurst. Unfortunately the matter was passed on to the Board of Agriculture, one of the most ancient of Government departments, well furnished with pigeon-holes, into which, no doubt, the communication was placed and would remain. He (the chairman) had, therefore, approached, through Sir Charles Wakefield, two of the City companies, and he hoped something might be done by private effort if not by the proper official department for such work.

The balance-sheet was, all things considered, most satisfactory, and the Association were to be congratulated on their position at the end of two troublesome years, which showed that their affairs were carried on energetically and their interests considered by the Secretary, to whom they were indebted for the present satisfactory position.

The Chairman then moved that the report and balance-sheet, as printed, be adopted. This was seconded by Mr. A. G. Pugh, and carried unanimously.

A vote of thanks to the retiring Council and officers was proposed by Mr. Sims, seconded by Mr. Hayes, and carried unanimously.

The Chairman briefly replied.

The following officers were then elected:

Vice-Presidents, *en bloc*, as last year.

Hon. Members: Dr. W. Malden, Dr. Annie Porter, and E. Sevalle, Esq.

Hon. Treasurer: H. Jonas.

Hon. Auditor: G. H. Sanders.

Hon. Solicitor: R. Mossop.

A special vote of thanks being passed to Messrs. H. Jonas, G. H. Sanders, and R. Mossop for their work during the past year.

Council: G. R. Alder, T. Bevan, G. Bryden, T. W. Cowan, General Sir Stanley Edwardes, C. L. M. Eales, G. S. Faunch, G. J. Flashman, F. W. Harper, J. Herrod-Hempsall, G. W. Judge, J. B. Lamb, A. G. Pugh, W. F. Reid, A. Rich-

ards. Miss M. D. Sillar, Sir Ernest Spencer, Major F. Sitwell, W. H. Simms, J. Smallwood, and E. Walker.

A letter was read from Mr. A. S. Dell, regretting his inability to attend, and receive the W. Broughton Carr Gold Memorial Medal.

Mr. F. Frusher, of Crowland, Lincs., then opened a discussion on legislation, and gave a vivid description of how he had suffered from the want of protection. After a lengthy discussion, it was unanimously resolved to send the following resolution to the President of the Board of Agriculture:—

"In view of the enormous mortality amongst the bees, and their extreme value as food producers, that the Government be urged to introduce a Bill or Regulation making the notification of disease among bees to the Board of Agriculture compulsory, and giving the Board of Agriculture powers analogous to those it has for dealing with gooseberry mildew and similar disease."

It was resolved unanimously to send a letter conveying the kind regards of the members present, with a wish for continued good health, and appreciation for all he has done and is still doing for the cause of bee-keeping to T. W. Cowan, Esq.

This concluded the business of the meeting, after which, under the very able supervision of Miss M. D. Sillar and Miss M. Whyte-Johnstone, tea was served to all present.

LOCAL CONDITIONS NEED TO BE STUDIED BY BEE-KEEPERS SO AS TO GET THE BEST RESULTS.

W. J. Sheppard, Nelson, Kootenay, B.C.

Although the main principles of apiculture are the same everywhere, every bee-keeper who wishes to get the best results must study local conditions and formulate his plans accordingly. It sometimes takes several seasons before the bee-keeper is able to become familiar with his locality and understand it as thoroughly as to obtain the best returns possible. The area covered by the bees in their flight, a distance of at least two miles radiating in all directions from the situation of the hives, should be gone over to find out the different sources from which the nectar is obtained, so as to ascertain, as near as possible, the actual time the honey flows may be expected. The bee-keeper will then be in a position to know the approximate date his hives must be crowded to their fullest capacity, with bees of the right maturity to work in the fields in their myriads and bring home the crop. The weather may hasten or delay the actual honey flow in any district for a week or two, and the rain and shine are always factors that have to be taken into account. If a cold or wet time should set in before the main honey flow the bees will need watching in case they run short of stores and require artificial feeding, in the absence of which they might get weak and not recover sufficient strength in time to store much, if any, surplus. Any expenditure on sugar under such conditions is a first-class investment. Then after the surplus crop has been taken the bee-keeper must be in a position to know if the bees are likely to be able to find enough food from fall flowers to last them through the winter, and to keep the queen laying eggs long enough into the autumn to ensure late generations of young bees, so as to provide sufficient energy to carry the colony through the winter and well on into the following spring, until other generations have been brought into being to take their place. Should this not be the case feeding will become necessary for the purpose. In some districts the possibility of the bees storing honey-dew, the excretion of aphides, or other sap-sucking insects, has to be guarded against in the fall, as this is the cause of more winter losses of colonies than many imagine. An excessive quantity is sure to set up dysentery in winter, if the bees are unable to leave the hive for a cleansing flight for a long interval, as is the case here. If a large amount of honey-dew, which can always be recognised by its dark or muddy appearance in the cells, has been stored it may be necessary to run the combs through the honey extractor to get rid of it, and then feed up with sugar syrup instead. This means that the bee-keeper should be familiar with the trees in his locality likely to be attacked with aphides, so as to know what to expect. The worst offenders in this district are the poplar and birch, which in some exceptionally dry seasons are literally running with honey-dew. Fortunately honey-dew is rarely troublesome here until the flow from the clovers, fireweed, etc., is over, so that it is important to get all this honey extracted before any honey-dew is likely to be stored beside it and lessen the value of the crop.

Bee-keepers in districts new to them will find it to their advantage to consult the official weather records, if such are available. This will be a guide as to the requirements for the successful wintering of colonies. In the hills and dales of British Columbia there is considerable variation in the climate. In the sheltered valleys, especially near the large bodies of water of the beautiful inland lakes, the winters are shorter and milder. As the altitude increases the snowfall becomes greater, and the cold of winter more intense. The nights

are, as a rule, always cool even after the hottest days of summer. This is not favourable to the production of comb-honey. A distance of 300 or 400 feet higher in the altitude generally lengthens the cold period two or three weeks in the spring after the snow has disappeared lower down, and the latter usually comes to stay that much earlier in the fall. At some of the higher altitudes, where white and alsike clovers have become established, good yields of first-grade honey are to be obtained, although the spring and summer seasons are shorter than in the lowlands.

After several seasons spent amongst the bees, in all parts of this section of British Columbia, the writer has come to the conclusion that the best results are to be obtained here by using double-walled hives, or, at any rate, a double-walled brood chamber above which the regular single-walled hive bodies could be used as supers. Quantities of dead chilled brood are always to be found in single-walled hives here in spring, which is often the unsuspected cause of colonies not being up to full strength at the time of the honey flow. The double-walled brood chamber would remedy this, and provide sufficient protection for winter in most localities. Even where it is necessary to use the packing case for wintering it is an advantage to have the extra protection of a double-wall when the bees are taken out in the spring. In the hottest days of summer the double-wall is a protection against the rays of the sun, and has the effect of checking the desire to swarm in many instances. The double-wall is also a great advantage in the fall, because the extra protection afforded then will cause the queen to continue depositing eggs for a longer period, so that the hive is better provided with young and vigorous bees, to go through the winter, and a better start is made the following spring. Bees consume less stores in protected hives to generate the necessary heat.

KOOTENAY BEE-KEEPERS' ASSOCIATION STANDARD HIVE.

A complete ten-frame hive, that has been tested and found most satisfactory for general use in this territory, has been standardised by the Kootenay Bee-keepers' Association. Bee-keepers in doubt as to the best form of hive to adopt here will now have something definite to guide them. A special feature of the hive is the double-wall hive-body, or brood chamber, which has many advantages over the single-wall, and is sufficient protection for winter in most districts. The ordinary single-wall hive bodies at present in use can be utilised as supers with this hive. The hive is equally suitable for producing both comb and extracted honey, as the super, as well as the brood nest, is well protected. Additional fittings recommended for use with the hive are the new wire queen excluder, and the double screen wire super clearer. The latter is most useful for placing over the frames, underneath the packing, for ensuring winter ventilation. A ventilated detachable porch is also recommended, which prevents clogging of the entrance from snow or ice, and by means of which the bees can be kept from flying out and getting lost in the snow during a "chinook" in winter.—W. J. SHEPPARD, Honorary Secretary-Treasurer, Kootenay Bee-Keepers' Association, Nelson, B.C.

ECHOES FROM THE HIVES.

I have pleasure in stating that I have to-day had the satisfaction of seeing pollen being carried in by my bees for the first time this season, which, I think, is very early considering the weather we are having this time of the year.

As regards "Bacterol," I may state that three stocks which had syrup containing this last autumn have now gone under with the "Isle of Wight" disease, while other stocks which were similarly fed are in the best of condition, and are flying strongly on fine days.—JOHN E. JAMES, Glan Apiary, Pontardulais.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BEES BY MEASURE.

[9432] This enclosed press-cutting, in addition to being amusing, points a moral to the prospective purchaser of swarms.

Buy by Weight.

There is a presumption, arising from the alleged measure, that, if the whole swarm was present when the receptacle was uncorked, the bees were Dutch.

I understand that the long-pull in liquid measure is illegal; this appears to be a case of the opposite, what our French

neighbours call *trop de faux col*, i.e., too much froth.

Yours faithfully,
A. F. HARWOOD.

BEES BY THE PINT.

HOW MANY WOULD BE IN THE NUMBER?

How many bees constitute a swarm? was a problem which came before Judge Mackarness at Haywards Heath County Court. Josiah Nettleton, a farmer, sued another farmer named Watkins for 12s. for a swarm of bees. Farmer Watkins complained that he did not receive a swarm, only about a pint.

It was stated that a swarm of bees was taken to Mr. Watkins's farm in a box, but a witness for the defendant said when he took the cork out in the evening he found only half a pint of bees.

His Honour, who said he had never heard of bees being sold by the pint, asked how many went to a pint, and how many pints to a swarm. The witness said he thought there would a hundred or more bees to a pint, and a swarm would make a peck.

Judgment was given for the plaintiff.

HOW BEES REMOVE THE WAX SCALE.

[9433] On page 97 of the B.B.J. Mr. Oliver G. Pike, in his charmingly written story of the life of the bee, makes the following statement:—"The hind legs of the bee are provided with very perfect pincers, and with these the wax flakes are removed from the pockets, then they are transferred to the front legs, and thence to the jaws."

By the light of modern research the above facts appear to have been disproved. Recent investigations carried out by Dr. D. B. Casteel for the United States Department of Agriculture have shown that these so-called wax pincers between the tibia and planta of the hind legs are *not* used to remove the wax scales from the wax pockets. Dr. Casteel, in his summary, says:—

"In the process of removal the scale is not grasped by the so-called wax shears, but it is pierced by a few of the stiff spines on the distal end of the first tarsal segment of the hind leg, and is then drawn from its pocket and remains adhering to these spines until removed for mastication. By flexing the hind leg the scale is brought forward beneath the bee's body and into proximity with the mouth. In the process of mastication the forelegs usually aid the mandibles by holding the scale in an advantageous position."

The so-called wax pincers are really concerned with the loading of the insect's pollen baskets.

To anyone interested in those details of the life's work of our little honey bee I can strongly recommend Circular No. 161 and Bulletin No. 121, on "The Manipulation of the Wax Scales of the Honey Bee," and "The Behaviour of the Honey Bee in Pollen Collecting," respectively. They can be obtained from the Superintendent of Documents, Government Printing Office, Washington, U.S.A.; the price of each in America is 5 cents.

L. BIGG-WITHER.

FROM THE EGYPTIAN FRONT.

[9434] I should be greatly obliged if you would allow me a little more space in the JOURNAL to thank those of my bee-keeping friends who have so kindly sent me books and papers in answer to my last letter in your paper. Needless to say, they were greatly appreciated, and they certainly help to pass away the long, monotonous hours which we have to spend. Since I last wrote to the JOURNAL I am pleased to say that I have had the pleasure of seeing some of the bees of this ancient and historic country. Some of the varieties I have seen are similar to our Italians with the usual three yellow bands on the abdomen, but they are more whitish in appearance about the thorax and head. I also saw another variety, the workers being much larger than our working bees; they are about the size of our queens, the thorax being a greyish white and the abdomen a deep orange colour with a black tip. They are certainly the most handsome bee I have seen. The natives have some very crude hives, being composed of fibre with one end open for the bees to go in and out. They are hung up in the trees, and the bees quickly take possession of them. To get the honey the bees are smoked out. It will interest readers to know that the Bombus species differ a little from those of our country. They are longer, not quite so fat, and most of them are jet black in appearance. While on a visit to a garden in an Egyptian town it was quite a treat to hear the humming of the bees working on some most gorgeous blossoms. Since I last wrote I have been to Cairo for 10 days, and while there I visited the Pyramids (one of the seven wonders of the world). They are indeed well worth seeing. I climbed the grand pyramid of Cheops, which covers 13 acres of ground; it took an hour and a-half altogether. Inside it is still more wonderful, being a network of tunnels composed of beautiful marble and alabaster. These tunnels lead to the "Kings'" and "Queens'" chambers. By the side of the Pyramids stands the proud old Sphinx, and also close by is

"the temple of the Sphinx," and various other tombs cut out of solid rock. The stones the Pyramids are built of are a tremendous size and how they brought them a distance of 640 miles is still a wonder unsolved. Cairo, in itself, is a beautiful city, the Mosques, with their domes and minarets, giving it a striking appearance. As regards myself, I am pleased to say I am still keeping quite well, though, of course, the hot climate and our arduous work is sapping the strength out of one daily. El-Arish, the Turkish base, has been taken, and we have advanced some miles further, so have utterly shattered all the Turkish hopes for an invasion of Egypt. By the time you receive this letter you will all be actively engaged among the bees once again, and I sincerely hope and trust the season will be one of plenty, and that all bee-keepers will have a good harvest of honey. I hope this spring will show that the "Isle of Wight" disease is less prevalent. Needless to say, we are all hoping the war will be over this year, and by all accounts it appears there are good prospects of it being accomplished. In conclusion, I send my best wishes to all bee-keepers for a most successful season.—No. 2366 Pte. Julian E. Lockwood, "D" Company, 1/5th Batt. Norfolk Regt., Egyptian Expeditionary Force.

CANE SUGAR v. HONEY.

[9435] By your kind permission I should like to give my experience on this point raised by your correspondent "Ignorant Physiologist" (9423, p. 72, March 8). I have been arguing this point for years. In my time I have had no end of driven bees and reared them into stocks, feeding on nothing but sugar. In my earlier days I have been at a loss to know why so many of these stocks of driven bees died during the winter and early spring. I put it down that it was the sugar feeding that did not agree with them, and therefore mended my ways a little and commenced feeding with half sugar syrup and half honey. This improved things to a certain extent, but not altogether so much as I wished. To give the thing a fair trial I fed two lots of driven bees on the half sugar and half honey, and another two lots were fed on honey only. This method solved the problem, and I abandoned sugar feeding altogether for general winter food, and now I very rarely lose any stocks made up from driven bees. I find that good, strong stocks of driven bees do better than some of my original stocks. This I have proved from time to time. I have altogether abandoned feeding with candy made from sugar. I give my plan of making my own pure candy. I make candy boxes, 5 in. by 5 in. outside measure, and 2 in. deep, with a glass top, which is rebated in. The boxes are put together with a little good, thick paint in the joints, and the glass is fixed with paint and putty. This makes them perfectly tight. I have about thirty of these boxes; they are filled with honey and stored in a dry place. The honey granulates, and I have always some boxes of good, pure candy in hand; what is not used for feeding the bees can either be kept for another year, or used for household purposes. I pack mine in a dry cupboard and cover with paper, which keeps it beautifully clean. Those who have not tried this plan I advise to do so, and report results through the British Bee Journal which I am sure the editors will be pleased to publish.

Ventilation of Hives.—Your correspondent (9424, p. 72) hits upon a point worth noting. To my mind, we bee-keepers, appear to care too much for our bees in the way of covering up through the winter. I have found from practical experience that bees do not need to be in a hothouse during the winter if they are dry and have plenty of stores to which they have free access. They will not starve, and as the winter approaches they will provide their own bedclothes. The following will prove this. I manage two lots of bees, both in 12-frame hives, belonging to an old lady and her daughter. I have had these bees under my management four years. The first year I was called to see them in the first week in August. A bunch of bees as large as an ordinary kettle hung out at the front of each hive. In both hives the bees had gone into the roofs and built them full of comb; they were a complete mess from top to bottom. There was no ventilation hole in the roofs, so with a brace and $\frac{3}{4}$-in. bit I bored a hole in one end so that I could get my smoker nozzle in. I gave a puff or two of smoke and soon saw the result. The bees came out of the entrance until the front of the hive and all round was one solid mass of bees. I prized the roof off and I never saw such a beautiful sight in my life, one solid mass of honey from top to bottom with section boxes embedded in it. It was a tough job, but I managed it, with my sleeves rolled up, and, of course, a veil on. I was literally "up to the elbows" in honey. When I had taken what honey I could I replaced the lift and roof, and never saw the bees again until August in the following year. No covering had been put on them in any way whatever, all that had been done to them

was the old section boxes had been thrown on the top of the frames, and all was again built up with comb and honey. All was built in the roofs as usual the following year, and the old lady told me she had taken 10 stones of honey to Doncaster market and sold it to a man to take the lot at 7d. per lb., and she said: "Don't you think my bees do well?" They are to-day just as I left them last year, without any protection beyond the hive roofs, and I am anxious to see how they have stood this winter, and if they have come through a winter like this I shall never wrap my bees up any more, as I am of opinion that the too warm wrapping up is at the root of so much disease. As your correspondent tells us, that disease was nil in our forefather's time when bees were kept in the form described above. My bee travels cover a very wide area, mostly to farm houses, and most of the bees are kept on the tumbled-up plan, but I never find any disease. There is a cause for it which has not been proved as yet, and I think it lies in the too-much-care plan.—E. J. THOMPSON, Gowdall, Yorks.

"ISLE OF WIGHT" DISEASE AND RE-STOCKING.

[9436] It is hoped our associations and societies will put forth every reasonable effort to fill up the vacancies caused by the above disastrous visitation. I certainly think the first consideration should be to replace by bees that are as far as possible immune—if there are any such. Every effort has been made by many experienced bee-keepers to prevent and ward off attack, but to no purpose, and so far as we know, there is yet no actual cure for the disease; then what good to restock and again be wiped out?

In my own case every effort has been made, but I have already lost 12 out of 20, and all the others are affected, some dwindling very bad. I am trying all the remedies, and if I lose all it will take some of the honey out of my life in more ways than one; still, at the same time, I should be vary chary at starting again until something tangible is to be had. Are the Dutch bees immune? Has that been decided? If so, it is the duty of our Parent Association to put us in a way to procure a supply, firstly, of pure queens, then nuclei or stocks. This, I imagine, could be done by sending reliable apiarists over to Holland to breed queens on the spot, send over here (not at fancy prices) and let us re-queen, and try to breed a better and stronger race, if this is the necessary point. Personally, I am of opinion the game should not be thrown over easily, we should not fold our arms and merely wait: what is wanted, *and now*, is action all along the line. Am writing the Association on the subject; who will follow?—H. HILL, Ockbrook, Derby.

Mr. A. H. Bowen, who has been "called up," is getting so many inquiries for bees, that it takes considerable time to reply to each one personally. He, therefore, asks us to say that whilst he has made arrangements to supply bee goods as usual, he is not able to send out colonies or nuclei of bees this season.

PRESS CUTTING.

TO A BEE.

Come, little worker! In our days of leanness
You, too, shall play your part in our campaign,
Nor raise a heated protest at my meanness
When I shall collar all your treasured gain.
As a consistent toiler none can doubt you,
Nor is there any task from which you shrink.
Have I not read what Lubbock said about you
And the collected works of Maeterlinck?

Yet how I envy you, a chartered rover
'Mid all the joys the countryside may yield.
'Tis literally yours to live in clover,
Garnering honey from the scented field.
Dame Nature never tasks your powers unduly;
You need but commandeer her endless stores.
Extracting sugar from my grocer truly
Is a tremendous task compared with yours.

But always in your coming and your going
I, in the spirit, shall be with you still,
Amid sweet scents and blossoms bravely glowing
Under blue summer skies by vale and hill.
My thoughts shall follow every joyous flitting
Till, when the days of light and warmth are spent,
I, like the queen within her parlour sitting,
Shall eat my bread and honey, well content.

TOUCHSTONE.

From the *Daily Mail*.

Notices to Correspondents

F. M. ATKINSON (Knaresborough).—*First Symptoms of "Isle of Wight" Disease.*—The bees are listless and disinclined to work. A few may be fanning. They crawl aimlessly about the alighting board and may be noticed stopping now and again to gently stroke the abdomen with the hind legs, as though in pain. At times there are no preliminary symptoms; one day the bees may appear all right, and the next there may be hundreds of "crawlers" on the ground.

EBOR (Dorset).—*Queries on Feeding.*—(1) Give the bees access to two or three holes. (2) You may use honey, add 3oz. or 4oz. of water to 1lb. of honey, according to the density of the honey. (3) You can remove the propolis by scraping, then wash with Scrubb's Ammonia or Felsnaptha soap.

"L. M. B." (Montgomery).—Native. If there is a great quantity of the garlic flowers the honey may be slightly flavoured.

NOONOI (Southampton).—So far as we know there is not now much disease in the district.

Suspected Disease.

"C. S. G." (Lutterworth).—We do not find disease in the bees sent.

"F. O'B." (Baltford).—The bees died from "Isle of Wight" disease. We will give a few simple directions if possible.

W. W. JONES (Brecon), "T. W. B." (Golders Green).—The bees are affected with "Isle of Wight" disease.

ROSE (Kent).—There are symptoms of "Isle of Wight" disease. Natives and Italians crossed.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per work as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ½*in., or* 6s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FOR SALE, nine Stocks Dutch Bees, healthy, from 25s. to 30s.; also empty Bar Frame Hives, 5s to 8s. each.—BUTLIN, Hartwell, Northants. e 4

W.B.C. HIVES, £2 each, worth double now; bought before war, never used, perfect condition, calico covered roofs, three coats paint, extra lifts, etc.; also some Appliances. Deposit.—TURNER, Pool House, Astley, Stourport. e 3

WANTED, two or three sound Stocks of Italian, Italian Hybrid, or Dutch Bees. A guarantee of sound condition required. State price and probable date of delivery to R. G. W. BUSH, Gloucester House, Ledbury, Herefordshire. e 2

WANTED, Healthy Stock of Bees. Prompt cash.—PRYOR, Breachwood Green. e 1

BEES wanted, Dutch or Italian; also Honey.—72, Norton-street, Hockley, Birmingham. d 34

WANTED, Stocks of Bees, guaranteed healthy. State race and best price.—GOLDEN, Leire, Lutterworth. d 36

WANTED, good Stock, on standard frames; also Stock or Nucleus, on 16 x 10 frames.—"COMMERCIAL," BEE JOURNAL Office, 23, Bedford-street, London, W.C. d 38

HEALTHY Bees wanted, Dutch preferred.—CLARKE, Rectory, Donhead St. Andrews, Salisbury. d 42

ITALIAN Queens, a limited number, imported direct, will be available for May, expected early, price 5s. each; orders in strict rotation of remittance. — Address, "ITALIANS," "BEE JOURNAL" Office, 23, Bedford-street, W.C. 2. a 01

WANTED, Bees, either skeps or on standard frames, guaranteed healthy.—State price to HEATH, The Lodge, Leydens House, Edenbridge, Kent. d 28

FOR SALE, a pair of diagrams, "The Anatomy and Physiology of the Honey Bee, and its Relation to Flowering Plants," drawn by the late F. R. Cheshire, mounted on linen, 30s.—BRITISH BEE JOURNAL Office, 23, Bedford-street, Strand, London, W.C. 2.

FOR SALE, by W. HERROD-HEMPSALL, Old Bedford-road, Luton, Ariel 3½ h.p. Motor Cycle and Side Car, in perfect condition; any trial or expert examination allowed; spares, belt, in leather case, two tubes, one cover, valve spring, back axle; all wheels fitted with Peter Union bands, back to saddle, horn, speedometer, three acetylene lamps, special luggage carrier on side car to carry two gallon can of petrol and one quart oil can, in addition to luggage, kick start, three speeds. Ridden by above, to be sold on account of medical advice; offers, or will exchange for Player Piano.

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

COLONIAL HONEY.—LEONARD HALL & CO., 6, Rood-lane, London, E.C., Honey Importers and Packers for H.M. War Dept., the leading Stores, &c. a 2

MESSRS. STONE & SON, LTD., Chemists, Exeter, are buyers of English Beeswax, in large or small quantities. Write, stating quantity and price required. a 3

ROWE,

28a, Moy Road, CARDIFF,

SELLS Pure Honeys, Colonial and Californian, &c., carriage paid, tins free; cash. Samples 3d. BUYS Home-produced **Run Honey, Sections, and Beeswax.**

LECTURES AND DEMONSTRATIONS ON BEE-KEEPING.

W. HERROD-HEMPSALL is open to give the above in any part of the country; providing his own lantern, slides, etc., demonstrating. Best terms on application.—W. B. C. Apiary, Old Bedford-road, Luton, Beds.

DUTCH BEES.

Cannot accept any more orders this season.—BEE MASON, Bures.

REVIEWS.

The Connection of Nosema Apis and "Isle of Wight" Disease in Hive Bees: Remarks on the Evidence Submitted in the Board of Agriculture Reports of 1912 *and* 1913, by John Anderson, M.A., B.Sc. (Edinburgh: R. Grant and Son; price 1s.)

Observations and Experiments Bearing on "Isle of Wight" Disease in Hive Bees, by John Anderson, M.A., B.Sc., and John Rennie, D.Sc., F.R.S.E. (Edinburgh: R. Grant and Son; price, 2s.)

These are two papers reprinted from the Proceedings of the Royal Physical Society of Edinburgh, Vol. XX. (1916), pp. 16-61 (1 pl.). In the first, the author, who is Lecturer in Bee-keeping to the North of Scotland College of Agriculture, after giving a brief history of some of the investigation work done in connection with the disease, refers to experiences in Lewis, Outer Hebrides, and sums up with a criticism of the conclusions that *Nosema* is the cause, as some suppose, of "Isle of Wight" disease. His experiments suggest, as has been already pointed out by Dr. Maassen (B.B.J., 1910, p. 483, and 1911, p. 201), and Dr. Hein (B.B.J., 1911, p. 371), that *Nosema* is not always present in "crawling" bees, a usual symptom of the disease, that its presence does not always produce the disease, and that colonies heavily infected may live long. During an outbreak of the disease at Lewis in October, 1911, specimens of bees were sent to Dr. Graham-Smith from two stocks, who reported "many young stages" of *Nosema*. One of the stocks was destroyed and the other, "a colony of American Golden bees, completely recovered, wintered in excellent order, and never again displayed crawling symptoms." In 1912 bees from a stock displaying "crawling" symptoms were sent to Dr. Graham-Smith, and, finally, the remnant of the stock with combs was dispatched to Cambridge. In the bees which died there Dr. Graham-Smith found "nothing very special." Several instances are given of "crawling" bees being found free from the parasite, and of stocks dying while showing "no obvious signs of disease," but whose dead bees contained numerous spores of *Nosema*.

In 1914 a Government grant for the investigation of bee disease became available through the Natural History Department of the University of Aberdeen, and from this time the author became associated with Dr. Rennie, Lecturer on Parasitology, University of Aberdeen.

The second paper is the joint production of John Anderson and John Rennie, who give a detailed account of observations and experiments bearing on "Isle of Wight" disease in hive bees. In this work they have been assisted by John Innes, B.Sc., M.B., who carried out most of the examinations of bees for the presence of *Nosema*, and Miss B. Simpson, M.A. The course of the disease as observed in three distinct localities is fully described, and on page 31 examples are given of a naturally occurring outbreak at Craibstone apiary showing spontaneous recovery. The investigations bearing on the relation of *Nosema apis* to "Isle of Wight" disease were carefully carried out by John Innes, M.B., each bee was studied in a routine manner, the chylestomach and colon in every case being examined systematically. In the infection experiments, although *Nosema* could be reproduced, the stocks showed no signs of the disease. The authors sum up their main conclusions regarding *Nosema apis* by saying: "So far we have been unable to recognise any causal relation between the presence of this parasite and the disease. We have found it to be present over prolonged periods in healthy stocks, while we were unable to find it in other stocks in the apiary, nor did "Isle of Wight" disease spread under these conditions, although various races of bees were present. Deliberate infection of a stock with *Nosema* did not produce the disease. It is well established also that the disease occurs where the parasite cannot be found. We have numerous instances of this on Deeside. We recognise that *Nosema* may be a contributing weakening factor favouring in certain cases the development of the disease. But we have not found that it is an essential factor."

With regard to the experiments bearing on the infectivity of "Isle of Wight" disease as distinguished from *Microsporidiosis*, after giving a detailed account of these they conclude by saying: "The general conclusion to which the foregoing facts point is that 'Isle of Wight,' although probably an infectious disease, is one which requires the coincidence of other and presently unknown external factors (besides a specific organism) before the disease develops. The disease is not necessarily conveyed by mere contact with contaminated hives or combs, or by feeding upon contaminated stores."

We have been interested in reading these papers, as they tend to confirm the contention of Dr. Maassen, and especially

of Dr. Hein, that *Nosema apis* is very commonly found in bees, even when healthy, and is not necessarily the cause of the disease. Both these investigators suggest that the disease is due more to climatic and hygienic causes than to *Nosema* infection. In this connection the reader is referred to our review of Dr. Hein's Paper read at the Conference held in Constance on August 8, 1911, on page 371 of our Journal for 1911. The question can only be solved by continual research, and anything that throws new light on the subject is of value; we therefore welcome these papers. It is to be hoped that as evidence accumulates the real cause of the disease may be determined and means found for combating it.

BLURTS FROM A SCRATCHY PEN.

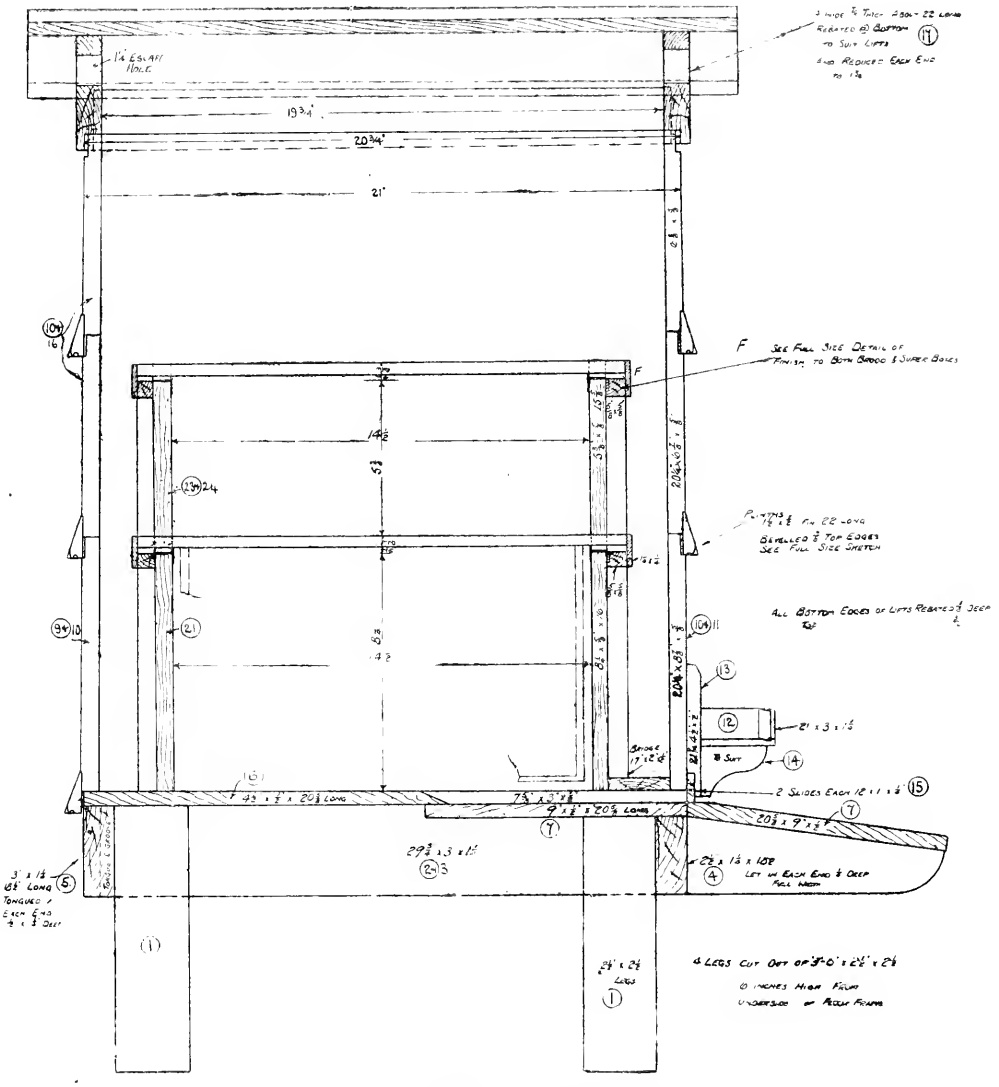
OUR LITTLE "SCRAPS."

It is often said, and there is a deal of truth in the saying, that onlookers see the best of the game. Well, it certainly is the easiest part, but whether it is the most virtuous is much to be doubted. Take our controversies, for example. It is far more comfortable to sit by the fireside and calmly read the arguments the opponents hurl at each other over the burning question of, say, how a hive ought to be constructed, if *Nosema apis* is, or is not, present in every bee that flies, or if the pillory and stocks, to say nothing of hanging, is not meet punishment for those who refuse to have their diseased hives inspected. But we have the authority of our great poet, that even in such case we are playing our part.

"We are all actors and spectators too." Now there you have it. Whoever would fight unless there were some folks standing by to watch. The game would not be worth the candle. It is quite certain, therefore, that spectators are very important people, indispensables, and I feel all my qualms of conscience soothed by this reflection. Our good Allies over the Channel seem to realise this fact; they speak of an audience "assisting" at a show, an exhibition. They quite realise the necessity of onlookers. I feel quite good. I am doing my bit as well as any of them. Let the other fellows give each other hard knocks. I shall appreciate all their science. For myself I will stand by, count the rounds, and criticise. The "assistance" I shall thus render will suit me to perfection.

Talking about controversies, what an endless chain there seems of them. My JOURNAL of to-day, April 5, 1917, belongs to the 45th volume. It is headed N.S. 1423, which for the benefit of the uninitiated I will explain means "New Series," dating from January 1, 1890. The "old series" consisted of 392 editions, so that there have been some 1,815 issues. You could hardly expect that fighting should begin in the very first, the combatants did not know each other; it was merely introductory and the shaking-hand business, but number two saw a commencement with the great Stewarton hive question. And so, without an interval, even until this very day has it gone on. Always something to disagree about, and the disputants never seem to get exhausted. There always seems to be someone anxious to rush into print, and air his opinions (really the madness for writing seems to be a most infectious ailment) until the Editors (shall I call them the Referees) issue their stern fiat, "This correspondence must now cease." But there the comparison with the prize ring ends, for when it is all over there are no purses to award or belts to give away. Nobody seems the victor, all that remains for the competitors is to stick plaster on their wounds, and get healed as quickly as possible.

Now in my assumed rôle of critic on the present "mill," which appears to be a double event, viz., hive construction and disease, are we at the moment one jot more forward than we were half-a-dozen, or say even a dozen, years ago? After considerable time, trouble, and expense the "standard" frame was adopted, and the W.B.C. hive was, by general consent, allowed to be the best model. Saving one or two minor improvements in each, are we not exactly as we were? The advantage of one standard, unofficial or official, is so obvious as to be indisputable. Better stick to what you have got than flood the craft with non-interchangeable models, which often provoke naughty words when they are found to be failures. And disease. How do we stand there? Some half-a-dozen years ago the Board of Agriculture heralded with a blaze of trumpets the great work they were going to do, the investigations they were making, and the cure they were going to give us for the "Isle of Wight" disease. They would allow no one to interfere with their work: the Bee-keepers' Associations must stand aside. What has been the result? A fiasco. The whole affair has fizzled out. We have found out, without their help, that the rock-bottom prevention of disease is to raise colonies of strong and vigorous constitutions, from strong and vigorous parents, as in human life.—J. SMALLWOOD.



W.B.C HIVE. MR. C. F. GEE'S DESIGN.

HIVE CONSTRUCTION FOR AMATEURS.

(By C. F. Gee.)

(Continued from page 80.)

In order to make the outer case and lifts perfectly rigid a block, as sketch, can be glued and screwed to the angles on the inside, extending the full depth of the brood casing and lifts. This greatly increases the strength whilst adding very little to the weight.

When fitting together the separate pieces forming the floor, a simple method of making all square is to get a lath and measures across the opposite corners; when the two diagonals agree the parts may be nailed together.

Each outer case or lift is then placed in position on the floor, and the angle blocks glued and screwed whilst in place.

In marking out woodwork accurately a lead pencil should not be used. The better plan is to employ a pen-knife or scriber. The latter can easily be made by cutting an old or broken table knife down to about 1in. in length and sharpening each side (see sketch). Again, in marking the square lines on the wood for the joints great care must be taken to keep the try square held tightly against the wood, the scriber being kept close up to the square.

It is very important that chisels and plane-irons be kept well sharpened throughout the work, and in the absence of an oilstone a really good tool for the purpose is simply made as follows :—

Take a piece of sheet zinc about 12in. long by 2in. wide. On this place emery powder and sweet oil, and it is ready for use. If desired a case with cover can be made for the tool.

The *Metal Runners* for brood chamber and supers are made as follow :—

A templet is first made from a piece of hard wood such as beech, 15⅝in. long by 1½in. deep by 1¼in. wide, cut as shown in the sketch. On to this is screwed a piece of sheet steel 15⅝in. by ⅜in. wide. A piece of thin sheet tin is taken—15⅝in. long by 1¾in. wide—and folded over to ⅞in. wide, and the fold hammered down. The fold is then placed in the groove of the templet, and one side of the tin bent and hammered down on to the steel, thus forming the finished runner.

List of Tools Required.

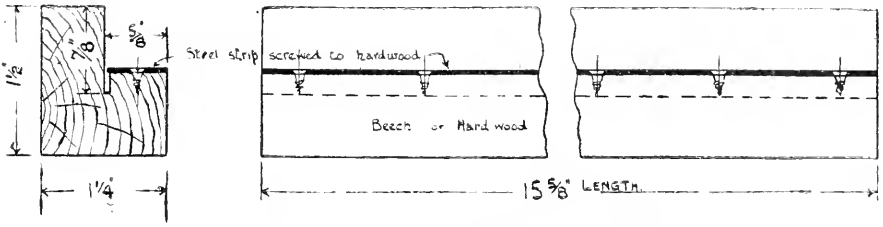
Tenon, or dovetail saw; 9in. try square (or tee square); hammer; pincers; rule; 1in. firmer chisel; ¼in. firmer chisel; single gauge; Stanley iron smoothing plane.

MATERIALS REQUIRED.

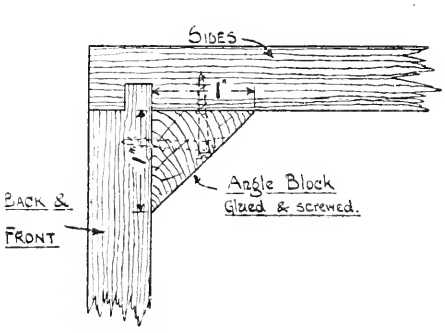
No. of templet.	Description.	No. of pieces.	Measurements. inches.
	FLOOR AND STAND.		
1	Legs	4	10 × 2½ × 2½
2 and 3	Sides of floor frame	2	29¾ × 3 × 1¼
4	Front rail floor frame	1	18½ × 2½ × 1¼
5	Back rail floor frame	1	18½ × 3 × 1¼
6	Floor board, rear piece	1	20⅝ × 14½ × ½
7	Floor and alighting boards	2	20⅝ × 9 × ½
	Side strips	2	7⅝ × 3 × ½
	OUTER CASE.		
8 and 9	Sides	2	21 × 8⅞ × ⅝
9, 10, 11	Front and back	2	20¼ × 8⅞ × ⅝
	Plinths	3	22 × 1½ × ½
12	Porch	1	21 × 3 × 1¼
13	Porch back piece	1	21 × 4½ × ½
14	Porch brackets	2	2½ × 2½ × ⅞
15	Slides	2	12 × 1 × ¼
	EACH LIFT.		
8, 16	Sides	2	21 × 6⅞ × ⅝
10 and 16	Front and back	2	20¼ × 6⅞ × ⅝
	Plinths	4	22 × 1½ × ½
	ROOF.		
17	Gable ends	2	23 × 4 × ⅞
18	Sides	2	20¼ × 1¾ × ⅞
	Cover boards	2	25 × 12 × ½
	Ridge piece	1	25 × 1¾ × 1½
	BROOD BOX.		
19 and 20	Sides	2	17 1/16 × 8⅞ × ⅝
21	Ends	2	16 × 8¼ × ⅝
	Strips	2	15½ × ⅝ × ⅝
	Frame stops	2	16¾ × 1¼ × ¼
	Bridge piece	1	16¾ × 2 × ½
	Metal runners	2	
	SHALLOW BOX.		
19 and 22	Sides	2	17 1/16 × 6 × ⅝
23 and 24	Ends	2	15⅝ × 5¾ × ⅝
	Strips	2	15⅛ × ⅝ × ⅝
	Strips	2	17 × ⅜ × ⅜
	Frame stops	2	16⅜ × 1¼ × ¼
	Metal runners	2	
	Division boards (cut to suit)	2	17 × 8⅞ × ½
	SECTION RACK.		
	Sides	2	17 × 4¼ × ½
	Ends	2	14¼ × 4¼ × ½
	Bearer strips	2	17 × 1½ × ¼
	Bearer strips	2	17 × 1 × ¼
	Following boards	2	
	Lock springs	2	

SUNDRIES.

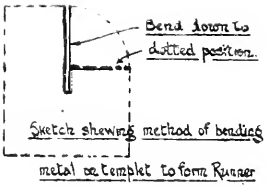
1 lb. 2 in. oval brads.
8 iron screws 2½ in. No. 14.
72 iron screws ¾ in. No. 6.
12 iron screws 1 in. No. 6.
4 iron screws, 1 in., large heads, for porch.

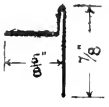


TEMPLET FOR MAKING METAL RUNNERS

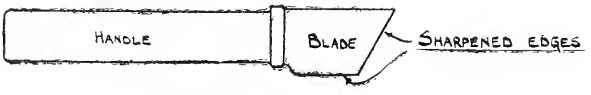


CORNER JOINT OF OUTER CASINGS.





FINISHED RUNNER.



SCRIBER.

W.B.C. HIVE (MR C.F. GEE'S DESIGN.) — DETAILS. —

Putty can be made at home by mixing common whiting with raw linseed oil to the required consistency.

Paint.—This should be white or stone colour. The use of cheap ready-made paint should be avoided. It is better to get a reliable oil and colourman or a master painter to specially prepare it, as this will prove more economical in the long run. About 2½lb. will be required. All knots should be gone over first with knotting to allow the paint to cover them. (*Finis.*)

[We intended to reproduce all the drawings, but find that when compressed into the size of one of our pages the lettering would be too small to read. The numbers in the circles refer to the number of the templet for that particular part of the hive. Working drawings of the whole hive may be had at a small charge to cover cost of reproduction on application to the secretary of the Kent Bee-keepers' Association, Mr. G. W. Judge, Barrowdene, Shepherd's Lane, Dartford.—EDS.]

A WONDERFUL CITY.

THE LIFE STORY OF THE HONEY BEE.

By Oliver G. Pike, F.Z.S., F.R.P.S.

(*Continued from p.* 98.)

At last a few walls of the City are completed. They hang from the roof and are of a pure white colour. Their form and accurate shape is beautiful in the extreme. Not a speck of foreign matter spoils these milk-white cells. Three or four hang from the summit of the City, and artisan bees are still hanging on each side of these, ready to form more walls at equal distances. All hang perfectly level. At this stage, the Queen, who has been resting in or on the cluster, makes her way to the empty cells of virgin wax. She pushes aside the Workers clustering there, her attendants immediately close round her, for the mother of the people is anxious to commence laying eggs. She knows that cells are now ready, and that she must once more begin to people the colony whose foundations are now extending. She marches straight to the pure, white cells; beginning near the centre, she deposits an egg in one cell, and her attendants now become excited; they crowd round her, lick her wings, stroke her body with their antennæ, two or three offer food which she eagerly eats, and quickly she goes from one cell to another depositing eggs. In her eagerness to lay, she will sometimes place two eggs in one cell, and I have on two occasions seen the Queen draw her body from a cell with an egg sticking to her, although one had been placed in that particular cell. In such a case, one of the attendants will instantly snatch the egg up and devour it! If two are laid in one cell, one will be eaten by the nurse bees whose duty it is to look after the tiny grubs when they arrive. It seems strange that these eggs, which are cherished so carefully by the workers when in the cell, should be so eagerly eaten when laid in their wrong place. I once saw a Queen drop an egg on the cappings over the cells of larvæ, and instantly a worker snatched it up and quickly ate it.

When the bees learn that the mother of the hive has begun to lay the needful eggs, a hundred or so of the Workers will hurry out into the fields, and go straight to the pollen-bearing flowers, and will bring big loads of bright coloured balls of this bee-bread into the City. They will hurry and work as they have never worked before. They go out and soon come back so heavily laden that one would think their very existence depended on bringing in more than was possible in a given time. In their excitement they will run against and fall over their hard-worked sisters. They dash past the sentries, and hardly give those vigilant guardians of the City time to tell if they are friend or foe. Some will even dart out of the hive, back into the nectar-laden fields with pieces of pollen still attached to their legs. The way in which they work is marvellous. The honey-gatherers go to the flowers, hurry back to their home, and quickly deliver up their store to a sister inside then just as rapidly fly back to the flowers. The music of their glistening wings makes the summer day more glad. They give to the meadows and joyful hedgerows a note of happiness. It is a real summer when the bees are flying; the sky seems a deeper blue when their transparent wings are telling out a joyful story of unflagging industry. The flowers rejoicing in the life-giving beams seem to receive these little sisters of the sunshine; they gently nod their heads as the busy Workers peer into their open faces to gather in the nectar they are so glad to give. The summer hours are at their best when these little winged people are out and about, for their very existence depends on the sun and the flowers, and again in their turn the very existence of the flowers depends on the bee.

With the advent of July, that month when the birds are so silent, and all save the robin, a friend we all love, and the skylark, give up their songs, honey simply pours into the hive. The whole City becomes richer every hour, and before the month is past the honey-flow, as we bee-keepers call it, is over in most districts; but this waxen town, which we have seen come into existence, is as populous and as plentifully supplied with stores, as the City we saw them leave only a few weeks earlier.

(*To be continued.*)

JOTTINGS AND QUIBLINGS.

BEES BY THE PINT?

How many constitute a swarm? was a problem which came before Judge Mackarness at Hayward's Heath County Court (B.B.J., p. 105, 9432).

It would appear we can increase our income considerably by the aid of several gallon measures and a few virgins when we get our monster swarms on the go. No weighing (?), a sweep with a feather, etc., but one must be careful in the corking, as they appear to shrink considerably. However, we need not be afraid of being "counted out" if bees are of a normal size; it might be advisable to have an expert bottler on hand, or, rather, "boxer."

The British Bar-Frame Hive (p. 90). I purposely confine myself to this half of the discussion, so that we may know where we stand. Mr. Simons' zeal for the short lug has led him to make some rather "mixed" statements. As this extra inch seems to be all his trouble, I will

not attempt to reply to all the points raised. I believe the real motive of this discussion was to point out that by a simpler and more economical use of wood we might hope to wrest a portion of the world trade for our own dealers. As we are situated for wood, this, to my mind, is impossible to do on anything like competitive terms. And really, by the numerical comparison he uses, I wonder where he gets it; "the short lugs" have it, and there is no more to be said. Why grumble at we few sticklers, and a statement from one person hardly is proof that our system is a "laughing matter," a deal of sympathy might be needed if our average climate suddenly changed. And climate to a large extent guided our "grandfathers" in their efforts in standardisation, and it is rather significant that however progressive we youngsters may be, we have not added many improvements in either wood, tin, or interior fittings. To sum up, in the single wall hive a shake at once lets in direct draught, and causes loss of heat; it also handicaps packing, gets stuck with propolis more, as if one provides a narrow rebate it is hardly bee-proof. If we use a double wall there is no argument, and we can have our long lug with added strength, and not have to fumble about getting the ends apart. And if there is laughing to be done, we have the grin of security in the W.B.C., and can work with and for our bees in comfort. —A. H. Hamshar.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE IONIC HIVE.

[9437] Will you give me space to answer Mr. Prior's remarks on the Ionic hive [9429]. He fails to see the advantages when manipulating. When the back is removed there is plenty of room to handle frames and supers.

There is no difficulty in removing the supers after breaking the propolis joint, which always has to be done with any hive. There is no need to remove brood frames clear of brood box when examining them, there being plenty of room and light within the case. Mr. Prior thinks there is no advantage in being able to examine stocks in inclement weather, as it should not be attempted. In my case there is a great advantage, having an apiary of twenty stocks 18 miles from home I very often find that although I start off in fine bee weather, when I get there the conditions are somewhat altered, and having come so far I feel bound to do the work I came for. Mr. Prior does not think it is bad manipulation to have loose tops and lifts littering about. That I admit, but it is very inconvenient and takes up a lot of time removing and replacing them. I can truly state that the case is not flimsy if well made, when ½-in. matching is used. The first half-dozen I made I used ⅝-in. matching. Anyone can use this thickness if they wish. I have had no trouble whatever with overturning by the wind. When in a sheltered position they need no precautions, and when much exposed they only require what any other hive does under the same conditions. I have had no trouble with entering swarms. I find that a swarm board with 3-in. slope in 3 ft. is quite sufficient to give the upward movement. If it has more than that when the bees are dumped upon it they have a tendency to roll down off the board to the ground.

I thank Mr. Prior for inquiring after the state of my health. No, I do not suffer with lumbago, nor any other crippling malady. My friend wonders if I manipulate many hives. I am afraid I do not really know what constitutes "many" in bee-keeping.

I can only state that I have 37 stocks all alive and well. No one touches them but myself, and the only time I have is in the evening and on Saturday afternoons. —W. Fox.

WEATHER REPORT.

WESTBOURNE.

March, 1917.

Rainfall, 2.68 in.	Minimum on grass, 12 on 24th and 28th.
Above average, .35 in.	Frosty nights, 13.
Heaviest fall, .36 on 31st.	Mean maximum, 43.9.
Rain fell on 23 hours.	Mean minimum, 32.5.
Sunshine, 97.7 hours.	Mean temperature, 38.4.
Below average, 11 hours.	Below average, 3.2.
Brightest day 18th 8.6 hours.	Maximum barometer, 30.694 on 18th.
Sunless days, 6	Minimum barometer, 29.070 on 7th.
Maximum temperature, 55 on 18th.	
Minimum temperature, 21 on 9th.	

L. B. Birkett.

Notices to Correspondents

We have had a number of applications for sugar for bees. Will our readers please note that we are now quite unable to get or supply any sugar. We are sorry we cannot supply it, but it is only a waste of postage writing to us for it.

"M. W. B." (Redenham).—*Honey Toffee.*—We gave a recipe for honey butterscotch in the BRITISH BEE JOURNAL for September 28 last, page 308. We shall be pleased to publish any other recipes our readers may send. The honey is mainly from clover, with a little fruit and other tree honey.

"GOLDEN" (Ayrshire).—*Queens Cast Out.*—(1) It is quite possible the old queen is still in the hive, the workers having killed the young ones. In a fight between queens the young one usually proves victorious. (2) Afterwards as a rule. (3) May.

"EBOR" (Eversley).—*Re Artificial Swarming.*—(1) A queen cell is "ripe" when the bees have cleaned away the wax at the tip, leaving the cocoon exposed. (2) You may put in a queen cell. The introduction of a laying queen is to save time. (3) It is better to remove them.

R. DAVIES (Limpsfield).—The secretary of the Kent B.K.A. is Mr. G. W. Judge, Barrowdene, Shepherd's Lane, Dartford.

E. GALE (Temple Combe).—Apply to the secretary of the Somerset B.K.A., Mr. L. Bigg-Wither, Birdwood, Wells.

Suspected Disease.

"REGULAR READER" (Aberdeen).—The queen was too dry for diagnosis.

REV. L. W. MYLRED (Hants.).—The bees were too dry for diagnosis. The matter on the piece of frame is excreta. We are afraid the cause of death was "Isle of Wight" disease.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees. Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1*d. per work as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3*s. per* ½*in., or* 5*s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

REQUIRED (over swarming season) LADY, thoroughly competent to do work of small apiary; must be strong and used to work; board provided.—Write stating age and all particulars to "K. L.," c/o J. W. Vickers & Co., Ltd., 5, Nicholas-lane, E.C. e 9

CROSSBRED Field Spaniel Puppies for sale, eight weeks old; mother splendid worker; males 3s. 6d., females 2s. 6d.; for War Fund.—MASTER MAURICE HERROD-HEMPSALL, Old Bedford-road, Luton. e 6

WANTED, two Shallow Frame Supers, with combs; also two Queen Excluders.—TEMPLE, South-street, Eastbourne. e 10

FLOWERS FOR BEES.—Michaelmas Daisies, Chinese Sunflowers, sprouting roots, 4s. per 100, carriage paid; 24, 1s. 6d., post paid.—WOOD, Colewood, New-road, Mitcham, Surrey. e 11

WANTED, one dozen Queen Excluders, zinc.—J. YOUNGER, 29, Newmarket-road, Cambridge. e 12

TWELVE good Racks, 200 Sections, some with comb; fifty Dividers; 22s. 6d.—REDMILE, Duddington, Stamford. e 13

WANTED, stock of healthy Bees, Dutch preferred.—HART, 359, Oxford-road, Manchester. e 14

FIVE Super Boxes, with ten Shallow Frames; fifteen Supers, wide frames, with drawn-out comb; one Super Clearer; one Nucleus Hive; forty-six ordinary Frames; ten Division Boards; fifty-four Sections; eight dozen Metal Ends; one Smoker; three Queen Excluders; one ordinary Body Box; lot, £2 10s., or offer.—BRANDIS, New Brighton, Cheshire. e 15

WANTED, Stocks of Bees, guaranteed healthy, for twelve hives.—DAVIE, Broomlands, Limpsfield, Surrey. e 7

EXTRACTOR (Cowan's), in excellent condition, geared and reversible, cost £3, price 40s.; also six modern W.B.C. Hives, in good condition, 12s. 6d. each; also 60-egg Incubator, equal to new, 38s.—WOOD, Colewood, New-road, Mitcham. e 8

W.B.C. HIVES, £2 each, worth double now; bought before war, never used, perfect condition, calico covered roofs, three coats paint, extra lifts, etc.; also some Appliances. Deposit.—TURNER, Pool House, Astley, Stourport. e 3

WANTED, Healthy Stock of Bees. Prompt cash.—PRYOR, Breachwood Green. e 1

BEES wanted, Dutch or Italian; also Honey.—72, Norton-street, Hockley, Birmingham. d 34

WANTED, Stocks of Bees, guaranteed healthy. State race and best price.—GOLDEN, Leire, Lutterworth. d 36

WANTED, good Stock, on standard frames; also Stock or Nucleus, on 16 x 10 frames.—"COMMERCIAL," BEE JOURNAL Office, 23, Bedford-street, London, W.C. 2. d 38

HEALTHY Bees wanted, Dutch preferred.—CLARKE, Rectory, Donhead St. Andrews, Salisbury. d 42

ITALIAN Queens, a limited number, imported direct, will be available for May, expected early, price 5s. each; orders in strict rotation of remittance. — Address, "ITALIANS," "BEE JOURNAL" Office, 23, Bedford-street, W.C. 2. a 01

FOR SALE, by W. HERROD-HEMPSALL, Old Bedford-road, Luton. Ariel 3½ h.p. Motor Cycle and Side Car, in perfect condition; any trial or expert examination allowed; spares, belt, in leather case, two tubes, one cover, valve spring, back axle; all wheels fitted with Peter Union bands, back to saddle, horn, speedometer, three acetylene lamps, special luggage carrier on side car to carry two gallon can of petrol and one quart oil can, in addition to luggage, kick start, three speeds. Ridden by above, to be sold on account of medical advice; offers, or will exchange for Player Piano.

BUSINESS ADVERTISEMENTS.

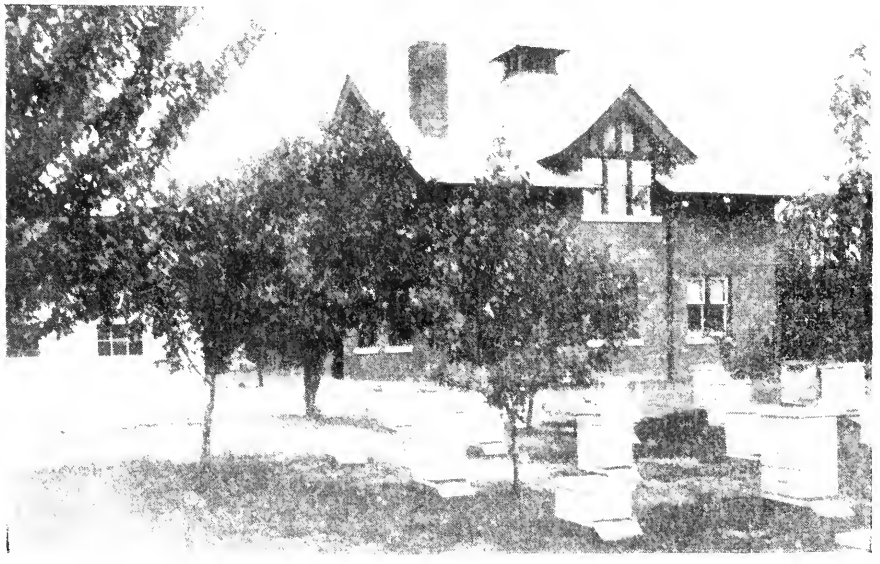
COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

Editorial

AN APICULTURAL BUILDING AT OTTAWA, CANADA.

An apicultural building for experiments with bees at the Central Experimental Farm, Ottawa, the first Government building of this nature to be erected in Canada, was completed and occupied on February 11 last. It is located with the apiary on a plot 160 ft. by 120 ft. in the north corner of the orchard. The building measures 32 ft. by 28 ft., is finished in red brick, and consists of main floor, basement and attic, with a total floor space of about 2,000 ft. The main floor contains a laboratory and offices. In the basement are three bee cellars, ventilated with two 9-in. pipes brought in under the ground from a distance of about 100 ft., with vents passing up through the building. The upper floor contains a store room, stenographer's office, and a museum for samples of honey and dried honey plants. The building was designed by Mr. F. W. L. Sladen, Apiarist of the Dominion Experimental Farms.

Behind the building is located the apiary, which contained in September last 28 colonies to be wintered in the cellar, and also 16 colonies to be wintered in four wintering cases, the latter surrounded by a board fence 6 ft. high to shelter them from wind. Adjoining the building is a small garden devoted to commercial honey plants, which are being grown in plots containing different kinds of soil for studying the effect of soil, moisture and heat on nectar secretion.



APICULTURAL BUILDING, OTTAWA.

[The above shows how very differently the Governments of our Colonies treat the important industry of bee-keeping to that of the Mother Country.

Here practically all apicultural work has to be done gratuitously, no permanent Government grants being allocated for the furtherance of the calling.

In the Colonies a number of the best practical and scientific men are engaged at remunerative salaries to help on the craft. The value of the bee as a producer of seeds and fruit by the fertilisation of the blossoms which she carries out is recognised, numerous bulletins on this subject, as well as on practical bee-keeping, being issued by the respective Governments.

Not only is legislation provided to deal with diseases of bees (even this benefit is denied in this country), but protection is also given against the spraying of fruit trees while in bloom with sprays injurious to bees.

Even in the United States of America bee-keeping has its own Governmental department, well provided with funds. We cull the following from the *American Bee Journal* of January, 1917:—

Departmental changes:—"The increased appropriation of $5,000 for extension work in bee-keeping has added three

men to the Government staff under Dr. Phillips."

We are hoping that the present food crisis and the acknowledged value of honey and fruit may awaken the Government of this country, and that the craft may receive the recognition, long overdue, it so richly deserves.—EDS.]

CAUSES OF THE HEAVY LOSSES OF BEES IN BRITISH COLUMBIA DURING THE WINTER OF 1915-1916.

It has been estimated that at least 40 per cent. of the bees in British Columbia died during the winter of 1915-1916. Many inquiries have been made as to the reasons for this, and whether it is preventable. The writer can only answer for the Kootenays, as he is not familiar with the other parts of the Province, where the conditions may be different, although it would appear that as the mortality was heavy all over the Province the same reasons are accountable for it all. In this section the summer of 1915 was an abnormal one. Rain and low temperatures, with absence of sunshine, prevailed during July and well into August, so that the white and alsike clovers, which are the principal sources of honey production, secreted very little, if any, nectar, and the bloom was over much earlier than usual. Later in August the weather improved, but there was nothing much the bees could gather then except fruit-juices and honey-dew. The writer's attention was drawn to the very unusual and peculiar appearance of the bees while the raspberries were in fruit. The abdomens of the incoming bees were a deep orange-red, which was found to be caused by their honey-sacs being laden with juice from the raspberries. The red colour of the fruit showed up clearly through the yellow segments of the Italians, but probably would not have been noticeable in black bees. Later on, large quantities of honey-dew were gathered, mostly from the poplars, commonly known as cotton-woods, and also from birch trees. This being the case, it is little wonder that the bees wintered badly, especially as the winter that followed was abnormally severe, with longer spells than usual below zero. Bees well provided with wholesome natural stores of honey, or thick sugar syrup, are able to withstand a considerable amount of cold weather, even if the hives are not properly protected. The cold causes the bees to consume larger quantities of food for the purpose of maintaining the heat of the cluster. If they have an ample supply of good honey, or sugar honey, in the hive, they can consume comparatively large amounts of this without its causing undue distension of the abdomen, as there is very little waste or refuse matters from these foods. There is thus little or no risk of dysentery or diarrhœa occurring. Fruit juice and honey-dew contain acids, starch, and other foreign matters, more moisture, and considerably less sugar than pure honey. Therefore, larger quantities of these substances, if in the hive, are required by the bees to keep up the same proportion of animal heat. As they contain more indigestible waste matter, distension of the abdomen, followed by diarrhœa, occurs after a comparatively short period of confinement to the hives and results in the death of the bees. When they are able to fly at intervals of two or three weeks during the winter months honey-dew is not so harmful, as they are then able to void the waste matter, or excrement, that has accumulated, which nature impels them to do while on the wing. Honey-dew on the leaves of trees collects dust, and also becomes foul with a black smut or fungus, and it is very likely that this also has an adverse effect on the bees by setting up irritation in their intestines, and thus causing dysentery. Every year the bees gather more or less honey-dew in this portion of British Columbia in the fall, and bee-keepers need to be always on the watch for it. A little will not do much harm, but if there is an excessive quantity it must be removed, or the bees will not go through the winter successfully. Probably the best plan is to remove the combs that contain it, bodily, in September, and to substitute empty combs, and feed up quickly with good, thick, warm sugar-syrup to take its place. If, however, frames of comb containing honey are on hand it would be better to exchange the combs containing honey-dew for these, as the storing of syrup in the fall in large quantities wears out the bees prematurely, and this causes excessive mortality in the winter. The combs of honey-dew can be put back into the hives in the spring, when it will be used up for feeding the brood, so that it need not be wasted. If the matter is delayed until too late in the fall to feed syrup, and combs of honey are not on hand, a large cake of well-made candy placed over the frames, after the honey-dew has been removed, will carry the bees safely through the winter.

Honey-dew, caused by aphides and other insects that live by sucking the sap from the leaves and bark of trees and plants, is most abundant, as a rule, after spells of dry weather. It can generally be easily recognised in the cells by its dark and muddy appearance. A very large amount of sap is extracted by aphides,

which have the remarkable habit of ejecting from their food canal, through two little tubes situated on the upper side of the abdomen, called cornicles, surplus food material in the form of the sugary substance, commonly known as "honey-dew." The aphides live on the under surface of the leaves, and the honey-dew is ejected from the cornicles in little streams, which fall on and adhere to the upper surface of the leaves below. At one time, before it was discovered that honey-dew is an insect excretion, or more correctly an ejection, it was supposed that it was simply an exudation from the leaves of trees and plants, which its appearance on their upper surface would seem to indicate. This is doubtless how the name of "honey-dew," which does not seem at all appropriate to the present known conditions, first originated. Honey-dew from different kinds of trees varies considerably in colour and flavour. That gathered from the oak is usually of an inky blackness, and partakes of the flavour and nature of the tannin for which the oak is noted. On the other hand, honey-dew gathered from the birch is light in colour and not so very easily distinguishable from honey itself. A few plants are known to exude saccharine matter, apart from the flowers, that bees sometimes gather, which, as it is not associated with aphides or other sap-sucking insects, should not come under the same category as honey-dew, as it is a different material. One of the most familiar examples of this is the vetch, that secretes and exudes a sweet substance, or true nectar, at the axils of the leaves. As a general rule, honey-dew will not granulate, and the water content being greater than the legal standard fixed for Canadian honey, which is 25 per cent. under the provisions of the Adulteration Act, for this, if for no other, reason it should never be put on the market and sold as honey.

A good many colonies of bees die during the winter because a bee space, or passageway, is not provided by the bee-keeper clear over the tops of the frames when packing them, and sometimes through insufficient ventilation, the latter causing the often fatal condition known to bee-keepers as "sweating."

If bee-keepers will bear the following rules in mind there is no reason why there should be any exceptional mortality of bees in British Columbia in the winter:—

(1) See that the hives have at least 30 lbs. of sealed stores the beginning of October of either honey or sugar-syrup, *and that they contain no honey-dew.*

(2) Provide a bee space clear over the tops of the frames when packing up for winter.

(3) If upward ventilation is provided, that is, porous coverings and a ventilated roof, which is preferable, an entrance 3 in. long by $\frac{3}{8}$ in. deep is large enough. If there is no upward ventilation a large entrance the full width of the hive must be provided.

(4) Use a double-wall hive or its equivalent, and in the colder districts a packing case as well.—W. J. SHEPPARD, Nelson, B.C.

The estimated quantity of honey produced in British Columbia for the past season of 1916 is 120 tons.

BY NEMO.

Influence of Nurse Bees on the Brood.—M. Bourgeois, writing in *Revue Française d'Apiculture*, says that at present only hypothetical ideas prevail respecting the development of sex in bees, but, on the other hand, experience has shown that the nurses have a prevailing influence on the brood which they rear. Thus a very industrious colony will raise excellent queens, even with brood derived from a lazy one. An indolent colony, on the other hand, will never rear good queens, even with the choicest brood. The food and the nurses have more influence on the value of the progeny than the parentage of the egg. This should be particularly remembered, as it forms the foundation of the rational rearing of queens and the production of vigorous swarms.

Utilisation of Propolis.—M. Denis, writing in the *Bulletin de la Société d'Apiculture de la Somme*, says that it is seldom that the use of propolis is mentioned as a remedial agent in certain cases. He says that a bee-keeper reports the following facts, which may not be credited, but which a certain number will at once try. Our friend had soft corns which caused him excruciating pain. Having in vain tried the plasters sold as infallible remedies, he ultimately cured himself with propolis. Here is the recipe: Soften the propolis by kneading it between the fingers, then spread it on a thin piece of leather, warm the plaster in the flame of a candle, and apply it to the place affected. A radical cure results in from one to two weeks.

If you have an abscess, there is no better remedy than a honey plaster. Mix a teaspoonful of honey with the yolk of an egg, and add two spoonfuls of rye flour. Spread

this ointment on a piece of linen and apply to the abscess. The matter is discharged gradually, and the pain diminishes. It is prudent to renew the plaster every two hours. Try it, and you will see the result.

THE IMPORTANCE OF SUFFICIENT VENTILATION IN THE HIVE.

W. J. Sheppard, Nelson, B.C.

Bees, in common with other living things, cannot thrive properly without a sufficient supply of oxygen. This is often lost sight of by bee-keepers, and gives rise to troubles of various kinds. The old straw skep made an ideal home for bees, mainly because the material of which it was composed, although affording protection from the weather, was sufficiently porous to permit the air to circulate within. Bees are able to take care of themselves to a great extent, and provide ventilation by fanning at the hive entrance, but during extremely hot weather it may happen that this is too great a task for them to accomplish. There is always danger of brood being killed through the overheating of hives and the lack of fresh air. Sometimes the heat may be so great that the combs will actually melt in the hives. On one occasion the writer found a hive standing in a garden in an angle formed by two brick walls where the sun was beating down on it, and was being radiated from the bricks as well, the consequence being that a steady stream of honey and liquid wax was running from the entrance. Needless to say the colony was completely ruined. The hives in use here are mostly constructed so that there is a permanent entrance one inch in depth extending the whole width of the hive. This is generally found sufficient to provide enough ventilation for the summer season, especially as the nights are nearly always cool. To make the entrance smaller when required a block is used, which has only to be turned over to give an entrance three-eighths of an inch by the full width of hive, or three-eighths by three inches. It is well known that if adequate ventilation is not provided during the swarming season excessive swarming will result. Attention has been lately drawn to the probability that more swarming occurs with hives where the frames are spaced one and three-eighths from centre to centre than in the case where the spacing used is one and a half inches. The reason for this, if it is so, would be that the latter spacing permits of freer ventilation between the combs. In all probability if the top bars of the frames were made fifteen-sixteenths of an inch wide, instead of the usual one and one-sixteenth, with the spacing of one and three-eighths from centre to centre it would remedy this, as very few bee-keepers would care to scrap their present outfit to change to the inch and a half spacing. The width of one and one-sixteenth of an inch in the top bars of frames was adopted so as to minimise the building of brace and bur-combs by the bees. But in this as in a good many other instances, it would appear that what has been gained in one direction has been lost in another, ventilation being thereby impeded. Ample ventilation in winter is very important, and makes all the difference to the comfort and well-being of the bees. Want of sufficient fresh air results in dampness, and causes the combs to become mildewed, even if nothing worse happens. A damp hive is also a colder hive, especially in freezing weather. From experiments tried here we seem to have found a decided improvement for ensuring ample winter ventilation. We are using a double screen wire super clearer immediately over the frames, which gives a clear bee space above them. Over the screen wire we have a porous covering composed of bags containing either planer shavings or coarse sawdust and a ventilated roof. The bees have not been able to fly since October 27 last, and it is now the end of January, and the worst of the winter is over. We have never before seen the bees in such splendid condition at this time of year. They are clustered well over the tops of the frames and smell sweet and dry, and have an exceptionally bright appearance. The mortality is far less than usual, and in some hives dead bees are scarcely to be found at all.

EXTRACTS AND COMMENTS.

Standard for Colour and Density of Honey.—In the *Western Honey Bee*, published by the California State B.K.A., the editor, Mr. J. D. Bixby, says:—"If there is one thing more than another that we need it is a standard of colour and density for extracted honey. At present it is a go-as-you-please, no-two-alike proposition, and is a lever used by every buyer in the state to peg down the price of honey. The editor put this before the San Bernardino-Riverside meeting, as well as the State meeting, and hopes some decisive action will be taken soon."

The British Bee-keepers' Association recognised the need for and decided upon

a standard for colour some years ago, but we have not yet a standard for density.

Benefit of Eating Honey.—The *Western Honey Bee* also has the following:—" Inspector Hennekin, of Monterey County, in gathering certain statistics from the public schools, found that 96 per cent. of the pupils who stood at the head of their classes were habitual consumers of honey at their own homes." Fish is popularly believed to be the best brain food, but from the above it looks as though honey could give it a number of points and beat it. This should be another item to put forward when advocating the greater consumption of honey.

THE LEGAL STANDARD FOR HONEY IN CANADA.

In Canada the following standard of quality for honey was established in 1912, under the provisions of the 26th Section of the Adulteration Act:—

"Honey is entirely the product of the work of bees operating upon the nectar of flowers, and other saccharine exudations of plants; and contains not more than twenty-five ((25) per cent. of water; not more than eight (8) per cent. of sucrose (cane sugar); not more than twenty-five hundredths (0.25) of one per cent. of ash; and not less than sixty (60) per cent. of invert sugar."

In Section 5 of the same Act it is provided that "Feeding bees with sugar, except for the purpose of being consumed by them as food, or with glucose or any sweet substance other than such bees gather from natural sources, with the intent that the same shall be used by the bees in the making of honey, or, excepting as aforesaid, the exposing of any such substance with such intent, shall be deemed a wilful adulteration of honey within the meaning of ths Act."

The penalties for wilful adulteration, under Section 81, are as follows:—

"'(a) If such adulteration is, within the meaning of the Act, deemed to be injurious to health, the person offending, for the first offence, incurs a penalty not exceeding five hundred dollars and costs, or six months' imprisonment, or both, and not less than fifty dollars and costs, and for each subsequent offence a penalty not exceeding one thousand dollars and costs, on one year's imprisonment, or both, and not less than one hundred dollars and costs."

"(b) If such adulteration is, within the meaning of the Act, deemed to be injurious to health, the offender incurs a penalty not exceeding two hundred dollars and costs, or three months' imprisonment, and for each subsequent offence a penalty not exceeding five hundred dollars and costs or six months' imprisonment, or both, and not less than one hundred dollars and costs."

In "An Act to amend the Adulteration Act," pased by the Senate and House of Commons of Canada, and which came into force on January 1, 1915, it is enacted, in Section 5, that:—

"The word 'honey' shall not be used either alone or in combination with any other word or words on the label or other mark, illustration, or device, on any package containing any article of food which is or which resembles honey, and which is not pure honey made by bees, and no package containing any article of food which is not pure honey shall be labelled or marked in such a manner as is likely to make persons believe it is pure honey, and any article of food labelled or marked in violation of this section shall be deemed to be adulterated within the meaning of this Act."

"(2) The provisions of this section shall not apply to any syrup or compound manufactured and sold for medical purposes only."—W. J. Sheppard, Nelson, B.C.

A DORSET YARN.

Of all the units of the floral kingdom, I have not yet seen one that will excel the Christmas rose (*Helchorus niger*) to give early food for bees. This season they were late in opening, not any out at Christmas time, but all through March, when the weather was such that the bees could get out for an hour, they simply revelled over the flowers. There were no gorse, or willows, nothing else in our immediate neighbourhood, but these, and it was real good to see the bees on the thousands of flowers, hurrying over the anthers to gather the pollen.

This plant is not generally grown, because of the initial expense; single crowns, dibbled into deeply worked soil, soon give a very large number of flowers; when three years old each plant will have twenty flowers, and I have known them stay in one place and bloom for a great number of years; in six years they will be 18 inches across, and each plant will throw 50 to 100 blooms. Now is the time to plant them, just as the new leaves begin to grow. I shall extend them this season, as I am convinced that they are the greatest help to the bees in the early months of the year, the fresh pollen to feed the young gives them a clean start towards maturity, and to be ready for work when the honey season begins.—J. J. Kettle.

FORWARD MOVEMENT IN BRITISH BEEKEEPING.

The general tone of the correspondence of late in the B.B.J., dealing with bee disease legislation, and the structure of the ordinary British hive, together with the absence of the hypercritical communications which formerly obtained against legislation, seems to me to give promise of improvement in British beekeeping as soon as the exigences of war will permit of attention being paid to them by the powers that be. Legislation that will efficiently control the situation so far as disease is concerned must precede every other movement; in fact, no progress of the industry can possibly be made until measures are taken to prevent the spread of, and to stamp out, disease. When these desirable conditions are obtained other improvements are bound to follow.

Although beekeeping in Britain may not achieve the same success as in less densely populated countries, I see no reason, if the industry was soundly established on commercial lines, and fostered by legislation, as in New Zealand, why a great part of the honey now imported should not be raised in Britain. The fact is, those amongst the advanced class of beekeepers have too easily given way to those opposed to modern improvements, and, instead of fighting strenuously for their cause, have allowed things to drift until the industry is almost ruined. The British Beekeepers' Association is by no means blameless for the present position of British beekeeping. The encouragement of the straw skepist in the past by the Association, through mistaken sympathy toward cottagers at the expense of the industry, has led to many taking up beekeeping whom it would have been greatly to the benefit of British beekeeping to have paid to keep out of it.

The war, no doubt, will compel all of us to give our best attention to carrying out our several industries in the most efficient manner. The slipshod man, who is a hindrance, will have to stand aside and find his level elsewhere where he can do no harm; he is certainly out of place in bee-keeping. A careful, intelligent man, such as will make a good bee-keeper, however poor he may be, will never be content with anything but a frame hive and bee legislation.

The Department of Agriculture has estimated our crop of honey for the season now closing at 1,250 tons. Reckoning our local markets to take about 700 tons, it should leave a good balance for export, but the difficulty just now is shipping space.

J. Hopkins, Auckland, New Zealand.

ECHOES FROM THE HIVES.

I was examining a stock on Good Friday headed by one of Mr. Simmin's White Star queens, and found several cells containing four eggs apiece, three or four more with six, and one had seven eggs in it. Several cells half-full of pollen had an egg stuck to the side or on the pollen. I might mention that I have been feeding very thin syrup (medicated) for nearly a month, although they have plenty of sealed stores, and in every bright and warm snap all stocks carry in peaflour in loads.

This morning I had the pleasure of examining my first batch of sealed queen cells this season, and I hope the weather may prove more suitable for our little friends by the time the young virgins are flying. — F. M. Claridge, Copford, Colchester.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BEES AT BUCKFAST ABBEY.

[9438] Having just been home to Buckfast Abbey, Devon, on a few days' furlough, I am pleased to report that during my nearly two years' absence the bees have been doing very well indeed at the Abbey, notwithstanding some passing anxiety last year owing to the lurking presence of "Isle of Wight" disease. An expert who paid us a visit three years ago prophesied that by the next season we would have no bees left, and his words seemed likely to be fulfilled, as in fact the bees had already been wiped away from all the surrounding country. We lost some twenty colonies, but thanks to the efforts of Brother Columban and his younger helpers in disinfecting apiary, hives and bees, the rest were not only saved, but gave a splendid account of themselves, as may be judged from the crop, which was well over 5,000 lbs. of honey from twenty-eight stocks, to which number they were reduced in the spring of 1916. There are now fifty-five stocks and all look strong.

Seeing in the B.B.J. your request for the addresses of beekeepers who are serv-

ing their country, I have much pleasure in complying, and enclose mine, together with that of my brother. My address is: P. Massé, interprète, Controle télégraphique, Brest. My brother's address is: H. Massé, Ier Zouaves, 20e Cie., S.P. 49. Though following a very peaceful vocation before the war, my brother has won some distinction on the famous battlefield of Verdun, where he got the Military Cross in the spring of last year.

As for myself, I am far from the danger zone, being in the auxiliary service; and as my work requires often night attendance I am frequently off duty in day time. This being the case, I am now trying to combine bee-keeping with my other duties, and have taken occasion from my recent journey to England to bring along with me a frame hive. Yesterday I went in quest of bees, and walked some 20 kilom. across country from farm to farm. In one place I found what must have been a prosperous apiary of 48 frame hives. But alas! the absence of the proprietor was only too apparent. Out of 48 stocks only nine were alive. One hive was occupied by a huge ant-hill. Another was tenanted by both ants and bees in equal shares! The discovery, I must say, was a surprise. Having tapped slightly on the front of the hive with my walking stick, instead of an ebullition of ants, as I expected, I was greeted by a few bees which came to see what was the matter. So the bees must have considered themselves still at home. On lifting the roof I found that three combs were completely pulled to pieces by the ants, and the bits of wax mixed up with other rubbish to form an ant-hill. The bees had retired to the other side of the hive, and evidently their joint-tenure was but a precarious one, for there was little food left in the hive. The proprietor being away, as said, no bees could be purchased.—P. Massé, Interprète.

THE ORGANISATION OF BEE-KEEPING.

[9439] The need of the hour in the bee-keeping world seems undoubtedly to be—organisation.

Many bee-keepers have joined the Colours, and numbers of the remainder have such urgent demands upon their time as to leave them small opportunity for that intensive management of their bees for honey production, which the present food situation demands.

War organisation is therefore imperatively necessary if bee-keepers are to play in the finest manner that part which is thrust upon them by the nation's need.

May I suggest, as a constructive basis, that control should be obtained by the local associations of those colonies belonging to their members (and others if possible) which are likely to fall short of maximum production through insufficient attention during the continuance of war conditions. The colonies so controlled should be congregated into suitable apiaries, where expert management could be provided by the Associations.

The lines upon which the Associations would make their move would be those of mutual co-operation; voluntary assistance, personal and material, should be the keynote as far as possible. Participation in the beneficial results of such organisation by the Associations, as well as the owners of the colonies, should be a *sine quâ non*.

The details of such a scheme would be mapped out according to the local feeling and requirements by such Association.

In all matters relating to honey production the value of bees as fruit and seed producers must not, particularly at such times as these, be overlooked. The ideal means of achieving the maximum in both honey and fruit would doubtless be to distribute the colonies as widely as possible in different orchards. But the enormous difficulty of proper management in this case precludes its use as a practical measure—either the scheme would result in bankruptcy owing to the great expense involved, or else, though doubtless securing due fertilisation of fruit, would fail in the main and proper object of bee-keepers as such, viz., the maximum production of honey.

Whatever is done, let it but be done quickly, enthusiastically and ably, as befits the time, and I am confident that bee-keepers can achieve something which will merit well of the nation.—F. C. H.

B. Harding (Crouch End).—*Treating Bees Suffering from "Isle of Wight" Disease.*—Feed with medicated syrup now, not candy. You may spray the bees and combs on a warm day. Clean the floorboard as soon as you can. Lift the brood box on to another board as gently as possible. Scrape the dead bees, débris, etc., off the floorboard, and wash it down with a strong solution of disinfectant, dry the surface moisture off, and replace the board. Burn the débris. Put in the hive four tablets of Apicure and two balls of Naphthaline, renewing as they evaporate.

E. L. Burt (Ravne).—*Where to Place Frames of Comb or Foundation.*—When adding these place them just outside the cluster of bees. They may be put next to the outside comb of brood. Even experts should not divide the brood nest at this time of year. It may be done with a strong colony towards the end of May.

J. W. Kershaw (Normanton).—*Clover and Heather District.*—It is difficult to give a district such as you suggest. It is usual to move the bees

some miles from the clover districts to the heather. As you are situated in Yorkshire this is the plan you must adopt.

"FOUL BROOD" (Wilts.).—*Apicure and Foul Brood.*—(1) Apicure will cure in the bacillus stage, not the spore. (2) Yes. (3) The time varies from six weeks to six months. Keep a supply of Apicure and Naphthaline in the hive till all signs of disease disappear. It means that every spore must become a bacillus before it can be killed. (4) You can go as far as four tablets, but no further.

M. O'HARA MOORE (Wimborne).—The spraying of fruit trees was one of the first theories as to the cause of "Isle of Wight" disease, and was abandoned a long time ago.

W. COBBE (Beds.).—Try the cure first, and if the bees do not respond to treatment destroy them.

"E. J. R." (Cornwall).—Your plan is the best you can follow for the purpose you have in view.

F. GENT (Teau).—So far as we know there is no foundation for the rumour you have heard. We do not know of any Dutch bees for sale. Watch our advertisement column. Swarms may be advertised in a short time.

"RUSTIC" (Glam.).—(1) Yes; it is placed between the brood combs and supers when the latter are put on the hives. (2) Honey.

We do not know any bee-keeper near you. Join the county bee-keepers' association, and you will receive at least one visit from an expert. The secretary is Mr. W. J. Wiltshire, The Maindy School, Cardiff.

"A. D." (Perthshire).—There is no doubt as to what the trouble was. The hives will be all right if thoroughly disinfected by means of a painter's lamp, or a strong solution of disinfectant and water. It is better to *burn* the diseased combs, frames, etc., than to bury them. The other frames would probably be safe if boiled for twenty minutes, or soaked for an hour, or longer if you like, in a 3 per cent. solution of Bacterol. There is a risk of disease re-appearing, but this may be minimised by taking preventive measures, such as medicating all food, cleanliness, and a constant supply of disinfectant in the hives.

"NOVICE" (Sheffield).—(1) The depth of cells for brood rearing is limited, for honey storing it is not. We have seen cells used for the latter purpose 3in. in depth. If more space is given between brood combs than is needed for the bees to make the cells the correct depth for worker brood, drone brood is reared, or comb is built in the space: for honey storing the cells are elongated. Advantage is taken of this when using only eight combs in the shallow extracting supers, and as two midribs and two bee spaces are done away with, the eight thick combs will hold more honey than ten thinner ones. (2) The capping on drone cells stands out further than that on worker cells. The closer spacing of the combs, therefore, helps to limit the amount of drone comb built. (3) No. (4) About 5lbs. (5) About 4lbs. (6) Probably they will, it depends on the weather. (7) It would be necessary to make a new drawing and a new block, and it is not worth the expense just now.

Thanks for your suggestion and sketches. We doubt if the number of that pattern frame used would warrant the making of a special tool.

MISS HALL (Staffs.).—We do not know of any Dutch or Italian bees for sale. Why not take the bees offered, and requeen with an Italian?

"D. B. E." (Pem.).—(1) Yes. (2) By foreign money order. (3) Yes, if properly packed. (4) It will be better to hive the bees, and when they have settled down remove the old queen and introduce the new one by means of a cage.

Suspected Disease.

"A. M." (Beccles), MISS C. M. HART (Sutton).—The bees died of "Isle of Wight" disease.

"HEATHER" (Kingussie).—The bees were affected with "Isle of Wight" disease. Shallow combs would probably be safe if treated in the way you suggest.

"S. T. C. K." (Kent).—The bees are suffering from "Isle of Wight" disease. See reply to B. Harding.

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WANTED, healthy Dutch Bees, in skeps or frame hives.—R. SHEPPARD, Hall Lane, Hagley, Stourbridge. e 17

BEES.—Four strong healthy stocks, on ten standard frames; 1916 Queens; five Hives; three 10 and two 14 Frames; ten Section Racks and Dividers; three Shallow Frame Racks; Super Clearer; and four Queen Excluders.—HOBBS, Camlot Cottages, Barnet, Herts. e 18

MOTOR CYCLE, 3½ h.p. Quadrant, Bosch magneto, h.b.c., engine, bushed last year, back tyre quite new, accept £10, or exchange for swarms. — H. WILCOX, 46, Lyndon-road, Olton. e 19

WANTED, Bees, either skeps or on frames; state price.—SULMAN, Wilburton, Ely. e 20

WANTED, Stock of Dutch Bees; also empty Hives; state price. — E. BOOBIER, Old Babell, Swansea. e 21

BEES.—Will give £2 for stock of healthy Bees, on ten standard frames, 1915 queens.—EDWARDS, North Parade, Camborne, Cornwall. e 22

WANTED, Stock of Bees, skep or standard frames, strong, guaranteed healthy.—FISON, Rawden, Leeds. e 23

WANTED, Stock or Nucleus Dutch Bees, guaranteed healthy.—JOLLY, Toller-lane, Bradford. e 24

ONE or two Stocks Bees required, guaranteed free from disease, on standard frames.—Particulars to COLBECK, Chemist, Carnforth. e 25

FOR SALE, good Field Spaniel Bitch, broken to gun and retrieve, good yard dog, 25s., to immediate purchaser, or will exchange for anything useful; not livestock.—W. HERROD-HEMPSALL, Old Bedford-road, Luton. e 26

WANTED, for bacteriological examination, three or four lots of bees suffering from "Isle of Wight" disease. — GOLDEN, Leire, Lutterworth. e 27

CROSSBRED Field Spaniel Puppies for sale, eight weeks old; mother splendid worker; males 3s. 6d., females 2s. 6d.; for War Fund.—MASTER MAURICE HERROD-HEMPSALL, Old Bedford-road, Luton. e 6

FLOWERS FOR BEES.—Michaelmas Daisies, Chinese Sunflowers, sprouting roots, 4s. per 100, carriage paid; 24, 1s. 6d., post paid.—WOOD, Colewood, New-road, Mitcham, Surrey. e 11

WANTED, one dozen Queen Excluders, zinc.—J. YOUNGER, 29, Newmarket-road, Cambridge. e 12

TWELVE good Racks, 200 Sections, some with comb; fifty Dividers; 22s. 6d.—REDMILE, Duddington, Stamford. e 13

WANTED, stock of healthy Bees, Dutch preferred.—HART, 359, Oxford-road, Manchester. e 14

W.B.C. HIVES, £2 each, worth double now; bought before war, never used, perfect condition, calico covered roofs, three coats paint, extra lifts, etc.; also some Appliances. Deposit.—TURNER, Pool House, Astley, Stourport. e 3

WANTED, Healthy Stock of Bees. Prompt cash.—PRYOR, Breachwood Green. e 1

BEES wanted, Dutch or Italian; also Honey.—72, Norton-street, Hockley, Birmingham. d 34

ITALIAN Queens, a limited number, imported direct, will be available for May, expected early, price 5s. each; orders in strict rotation of remittance. — Address, "ITALIANS," "BEE JOURNAL" Office, 23, Bedford-street, W.C. 2. a 01

Editorial

BRITISH BEE-KEEPERS' ASSOCIATION.

Arrangements are being made for a series of six-course lectures in the Association's apiary at Golder's Hill Park, London, N.W., during this spring and summer. Particulars from the Secretary, W. Herrod-Hempsall, 23, Bedford Street, Strand, W.C.2.

MONTHLY MEETING OF COUNCIL.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on April 19, 1917.

Mr. W. F. Reid presided, and there were also present:—Sir Ernest Spencer, Messrs. J. Smallwood, G. S. Faunch, G. Bryden, A. Richards, A. G. Pugh, G. R. Alder, W. H. Simms, G. J. Flashman, G. W. Judge, J. Herrod-Hempsall, J. B. Lamb, Association Representative P. A. Cragg, and the Secretary, W. Herrod-Hempsall.

Letters expressing inability to attend were read from Miss M. D. Sillar, Messrs. T. W. Cowan, C. L. M. Eales and T. Bevan.

The minutes of Council meeting held March 15, 1917, were read and confirmed.

The following new members were elected:—Miss P. Edmunds, Mr. R. G. Story, Mr. F. S. E. Elliot, Captain J. R. B. Branson, Mr. E. Mackie, Mr. A. G. Seaman, Mr. J. G. Campbell, and Mr. T. H. Harse.

The following Associations nominated delegates, and all were accepted:—Norfolk, Mr. H. W. A. Detering; Northumberland, Mr. W. G. Sanderson; Bucks, Rev. T. E. Peters; Lincoln, Mr. F. W. Frusher; Cumberland, Mr. J. Price; Devon, Mr. Oldham.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank for March amounted to £33 0s. 3d., the bank balance at the end of March being £135 12s. 2d.; payments amounting to £19 16s. 8d. were recommended.

Letters were read from Mr. H. Hill and the Lincolnshire Association, and the secretary was instructed to deal with the same.

Preliminary examinations were applied for by the Bucks and Hereford Associations, and both were sanctioned.

The secretary was instructed to send a letter of sympathy to the mother of Lieutenant O. R. Frankenstein, killed in Egypt.

Next meeting of Council May 17, 1917, at 23, Bedford Street, Strand, London, W.C.2.

SEASONABLE HINTS.

The interval that has elapsed since the last notes under this heading has been rather longer than we intended. Owing to articles in the daily and weekly papers we have been exceedingly busy answering the inquiries of would-be bee-keepers, numbers having called at the office, and many more have written. We also lost our clerk early in the year, and though we have now secured another it will be some time before a new-comer "knows the ropes" and becomes efficient. The above will also explain any delay that has occurred in answering correspondence, or despatching orders, as our manager has been practically single-handed, and though he has worked overtime he has been quite unable to attend to matters with the usual promptitude. We are sorry for any inconvenience that may have been caused, but the delay has been quite unavoidable.

Bee-keeping has during the last few weeks received more notice than ever before. The shortage of sugar has emphasised the value of honey, and the B.B.K.A. has received hundreds of letters from would-be bee-keepers, many of whom, we are afraid, will be no great acquisition to our ranks.

The weather has been so severe until the last week that any manipulation of the bees has been quite impossible. Do not be over-anxious to manipulate, as the wind is still cold and keen, and a very short exposure of the brood, especially the unsealed larvæ, may result in it being chilled. The bees are also apt to resent their home being pulled about, and take reprisals, not only on the bee-keeper, but on the queen, and will kill her. The bee-keeper's chief care now is to see that the bees have enough food until the fruit and other early blossoms are out. The number of stocks that die of starvation during March and April is greater than at any other time of the year.

Spring cleaning of the hives should be done as soon as possible. The best method of doing this is to have a spare clean hive, into which the bees and combs can be transferred. Choose a warm day with no wind, blow three or four puffs of smoke into the hive. Remove the roof and lifts so that it is easier to lift the hive. Examine one comb of brood to see that it is healthy, and if so move the hive a couple of feet to one side; then fix up the

clean hive in its place. It should be made level from side to side, with the front a trifle lower than the back, so that any moisture will run out of the hive. Now return to the bees, remove the felt, carpet, or other packing, roll back the quilt parallel with the top bars, blowing a few puffs of smoke across them as this is done. It is an advantage to have a spare quilt which should now be laid over the frames. The top bars should be cleaned first. Turn the edge of the spare quilt, next to the old quilt, back, exposing one top bar, drive the bees down with a puff of smoke, and with a spatula take off all bits of wax and propolis from the bar; then unrol the old quilt over it, and turn the spare quilt further back to expose the next top bar, and so on, until all are cleaned. Now, commence at one side, take out the comb, clean any burr, or brace comb, etc., from it, and place it in the clean hive; only expose one comb at a time, and as they are placed in the other hive cover with the spare quilt. Do the work as quietly and quickly as possible, and keep the combs in the same relative positions. Use smoke as necessary, and *be careful not to lose the queen.* Notice the condition of combs and stores as the work proceeds, and make any notes for future reference. The now empty hive may be cleaned ready to transfer the next stock into it in the same manner. All refuse should be scraped into a box so that it may be burned, the bits of comb may be saved and melted down for wax.

If there is no spare hive, clean the top bars as described, remove all combs not covered by bees, and with the spatula clean down the sides of the hive in the space thus made, examine and clean the first exposed comb, and put it next the side of the hive, clean the sides of the hive, and then the next comb, and so on, till all are done. Put in one comb more than the bees will cover, and close up with the division board. The other combs may be added as the bees need room for expansion. Keep the tops of the frames covered to conserve the heat. Place a lift, or the outer case, on the ground, and lift the brood chamber on to it, placing it cornerways, so that the corners rest on the centre of the sides of the lift, by doing this no bees are crushed, nor do dirt and stones cling to the bottom bars or edge of the brood chamber, as would probably be the case if it was stood on the ground. The floor-board may now be cleaned and levelled, and the brood chamber replaced carefully with a screwing motion, so that no bees are crushed. Do not forget to renew the supply of naphthaline, and cover all down snug and warm.

All weak colonies should be united as soon as possible. Those also that are queenless, or have useless queens, should be united to a "queen right" colony. Before uniting remove the worst or oldest queen. Remember one strong colony will give more surplus honey than a dozen weaklings. When uniting flour the bees well, interspace the frames, and cage the queen that is left for at least twelve hours.

A DORSET YARN.

Two bright, sunny days and the bees at the Violet Farm have forsaken the Christmas roses for the wealth of blossom on the willows. They seem to carry home such loads of pollen that some of it has fallen on the alighting board. Only two days, and they are beginning to build new cells and honey on the top of the bars, and fastening it on to the glass inspection covering. From what do they get the honey? Is it the seed-bearing tree, or the pollen-bearing tree? As this class of flowering trees belong to that section of the floral kingdom that has separate trees to grow the seed and pollen, by far the greater number of bees are to be found on the male tree than on the female tree this last day or two round our village, but honey is being gathered from some unit of the floral world. I am inclined to think it must be from the willow, as so few are to be found on anything else.

[Nectar is gathered from the female, or seed-bearing, tree, and pollen from the catkins of the male tree. Willows are good nectar-yielders.—EDS.]

What a sight it is to see the hedgerows and woods so full of flowering willows! By the side of the running brooks they hang over, and look so beautiful. The Golden Willows, which have been planted in the hedgerows for a fence between the fields, have also their wealth of blossom, the low-growing trailing one that is to be found on the bog and moorlands also is just now at its best; yet, with the bees going from one to another of the different varieties of the Salix family, one hardly ever finds a different hybrid—though the bees visit all the varieties, I have never found a hybrid. Now, with other flowers they mix up the colours in a marvellous manner. It was good to read last week that one of your correspondents had seen a queen cell. I have not yet had time to overhaul all my stock; most of them are very strong, so they must have been breeding young ones, though the weather has been so unfavourable. How they can

keep up the warmth of the hive in all the frost and snow of March and early April to me seems so mysterious.

I am anticipating a record harvest of honey early this year, as the fruit trees are looking very promising for a great wealth of blossom; I have no one left that can help me with the bees now. My last son has gone into the Army; he thought he ought to do his share of the fighting, so I have to plough in all the potatoes day after day. Peas and beans we are ploughing in, in long rows of 300yds. The bees cannot get so much attention as other years, but, to use a hackneyed phrase, "we shall muddle through." We have added several hundreds of plums, pears, apples, and cherries, extended the raspberries very considerably, so that there will be food in great abundance close home for them. I have taken care to plant trees that can be cross-pollinated by the bees. Mr. Cowan's treatise on "Fertilisation of Fruit Blossoms by Bees," in which he tells how peaches and pears, cross-pollinated, increase their weight and size, is something every fruit-grower must always have in mind. I have to lecture on this subject at Highcliffe Gardeners' Mutual Improvement Association on May 7. The very great help that the bees are to the orchardist is not nearly enough known.—J. J. KETTLE.

NORTHUMBERLAND BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the above was held at the Black Bull Hotel, Morpeth, on Saturday, April 14. Ald. John Wilkinson (Ashington) presided, and others present were Mrs. Davison, Morpeth; Mrs. Cuthbert, Corbridge; Mr. J. Wilson, Shilbottle; Mr. D. Mackie, Eshott; Mr. Wm. Stockdale, Widdrington; Mr. J. Black, Linden; Mr. James Challoner, Morpeth; Rev. J. G. Shotton, Doddington; Mr. J. Smith, Benton; Mr. R. Robson, Wooler, and Mr. J. Embleton, Morpeth.

The Secretary (Mr. Robson) presented his annual report, which stated that the past season had been almost a failure as a honey year, and although the weather at the end of July and early August was exceedingly good for gathering of clover honey, it was nullified by the wet and cold period which preceded it, during which several swarms that came off in June were known to perish of starvation, and the bad weather during heather time caused a complete failure at the moors. Owing to that and the present difficulty of getting sugar many stocks would probably go under this spring for want of food. The Sugar Commissioners had, however, made an allotment of 50 tons of sugar for use as bee food.

The expert's report showed that "Isle of Wight" disease was still gaining ground, and of 180 members visited it was found that half that number had lost all their stocks. Three hundred lots examined were certified as healthy, thirty-three lots suffering from "Isle of Wight" disease, and six had "foul brood," while 510 lots were reported as having died of "Isle of Wight" disease. Some progress, however, seemed to have been made in combating the disease during the summer and autumn. Experiments which had been carried out gave room for encouragement that the disease, which had resisted all efforts up to the present, would soon be successfully grappled with.

During the year several counties had inaugurated "restocking schemes" for supplying members who had lost bees from disease with healthy lots at a nominal charge. It was hoped that something on those lines might be undertaken during the coming season in Northumberland.

Mr. Embleton pointed out that owing to the scarcity of bees, the Royal Horticultural Society, at their last meeting, said they would have to resort to the rabbit tails for fertilisation. He thought that it should be brought to the notice of all horticulturists in Northumberland the good bees were doing in the way of fertilising fruit trees, etc., and that an appeal be made to them to come into the Association.

The financial statement showed that the total income had amounted to £50 1s., and the expenditure to £37 16s. 10d., leaving a balance of £12 4s. 2d., which was considered very satisfactory.

The election of officers resulted as follows:—President, Mr. A. B. Collingwood; vice-presidents, Lord Allendale, Mrs. G. Anderson, Sir Francis Blake, Bart., M.P., Mrs. Burdon, Mr. G. G. Butler, Mrs. Collingwood, Mrs. Leather Culley, Mrs. Fenwick, Lord Joicey, Hon. Mrs. A. Joicey, Major E. Joicey, Hon. F. W. Lambton, Earl Percy, Miss Sybil Ridley, Mrs. J. C. Straker, Mrs. F. C. Straker, Mr. P. C. Swan, Mr. W. J. Sanderson, Mr. W. J. Sanderson, jun., Lady Wigan, and Mrs. Widdrington; hon. secretaries, Major F. Sitwell, Ord Hill, and Mr. Robt. Robson, Wooler; hon. treasurers, Messrs. Thos. Gordon and Robt. Robson, Wooler; hon. auditor, Mr. John J. K. Suddes, Wooler.

The committee were re-elected:—Colonel Roddam (chairman), Messrs. R.

W. Davidson, N. Beveridge, W. Colville, P. C. Swan, R. Robson, J. Scott, W. Smart, Thos. Bruce, E. B. Atkinson, R. Matheson, Rev. J. G. Shotton, and Ald. John Wilkinson, with the addition of Mrs. Davison.

RESTOCKING APIARIES.

With reference to restocking apiaries, an interesting discussion took place. It was opened by the Rev. Mr. Shotton, who said that he felt very strongly about the bees. He had a neighbour, Mr. Rea, doing excellent work on the Agricultural Committee. He had told him of the difficulties of bee-keeping and asked him if he would approach one of the members of the Board of Agriculture. He gave Mr. Rea, a paper on restocking, which had, amongst other things, a paragraph upon the prevention of the removing of diseased bees. He told Mr. Rea how members of the Association had suffered. He said he would do what he could. Mr. Rea saw a member of the Board, and the answer he got was that nothing could be done this year in the way of legislation, as legislation was absolutely blocked. That man knew the ravages that had been caused. He (the speaker) had an idea that people did not gain their point by complaining, but if they could state their case in a kindly sort of way and show how things were, perhaps they would get a result. "If, instead of complaining," added the Rev. Mr. Shotton, "we make a kindly statement to the powers that be, and show the ravages that are being caused, then something may be done."

Mr. Mackie said he knew cases where apiaries had suffered heavily from disease, and by the introduction of Dutch bees the stocks had been increased, and these were immune from disease so far.

Mrs. Cuthbert said she was restocking from Dutch bees, and she had friends who had found such introduction very successful.

Mr. Embleton pointed out that at Keswick, where the disease was very bad, the bee-keepers went in for Dioxygen, and found it very beneficial; also that a bee-keeper in this neighbourhood with forty to fifty stocks had tried the same cure, as he knew one of his stocks was infected, with the result that he still retained his whole stock.

The Rev. Mr. Shotton said with regard to the restocking scheme certain associations had come to the conclusion that the best thing for the present need was to start apiaries on co-operative principles in bee districts, and certain of those had been started and were a success. They could begin with fresh stocks and new hives in different parts of their district which had been as little hit with the disease as possible. What they wanted to do in this county was to have three districts in which they could have something of this kind. Start with fresh stocks at certain places and a committee of three looking after them.

Mr. Smith moved that the restocking scheme be got under way at once, and that the centres for apiaries be Wooler, Haltwhistle, and Morpeth. Mr. J. Embleton seconded the motion, which was unanimously carried.

It was decided to leave the arrangements in the hands of the general committee.

A vote of thanks to the Chairman concluded the proceedings.

LEICESTERSHIRE AND RUTLAND BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual general meeting of the above was held on Saturday, April 14, in the Vaughan College, Leicester. Mr. A. E. Biggs, Chairman of the Association, presided. Those present included the Rev. J. F. Anderson, Miss Harvey, Messrs. W. P. Meadows, H. M. Riley, W. W. Falkner, W. E. Moss, J. Hayward, W. K. Bedingfield, G. Brown, J. J. Abell, J. Thompson, J. Matlock, W. G. Dunn, J. F. Cook, J. Winder, A. Briers, J. Hunt, T. H. Earp, and J. S. Shenton, the veteran member.

The thirty-fifth report records a serious shrinkage in membership of 25 per cent. due almost entirely to the loss of bees through the "Isle of Wight" disease, which has spread through the whole country. Last season was satisfactory from a honey point of view, and those with healthy stocks obtained a good yield from them. No shows were held, but gifts of honey had been sent to the hospitals for wounded soldiers and charitable institutions for children. A re-stocking scheme on co-operative principles was started, and Mr. J. H. Theakstone, of Enderby, offered the use of his garden as a site for the "increasing apiary." Mr. Bedingfield has given several spare hives, and the Rev. Hamper, Mr. J. W. Smith, and Mr. J. Waterfield, the secretary, have offered to lend stocks of bees.

The balance-sheet showed receipts £68 5s. 8d., including a balance at the beginning of the year of £20 9s. The balance at the end of the year was £15 0s. 3d.

The report was moved by Mr. W. K. Bedingfield (Lutterworth), who thought the management had done well consider-

ing the number of people who grew faint-hearted over the loss of their stocks.—Mr. W. W. Falkner seconded, and it was carried.

In replying to a vote of thanks to the officers, the Chairman said that everything in connection with the re-stocking scheme, provided they had no bad luck, promised to be a successful venture. Yet he had still to utter a note of warning. The country was now absolutely depleted of all stocks, and he did not think it possible to buy a hive of bees. The great danger was the large number of hives throughout the country which were full of dead bees killed by the disease, and with all the internal fittings. It was almost impossible to prevent passing bees from entering, and thus contracting the disease and spreading it still more. Since the autumnal meeting he had communicated with Mr. Prothero in regard to this matter, and had also written to the papers. Whatever the difficulties might be he did not know, although he thought it quite easy for the Board of Agriculture to get an Order in Council, as they had done for far less important matters, and thus save time and discussion in Parliament. By this means authorities would have power to deal with these diseased hives. So far he had made no headway. Mr. Prothero had stated that if the bee-keepers could produce an agreed measure it could be passed in a very short time. Time was going on, and these hives were a standing danger to the country. He knew there were 40 hives standing in one place in the county with all the stocks killed, and this man had been almost dependent for his living on the rearing of bees. This was a far more serious matter than people who were outside bee-keeping realised. There was the production of honey, which was important for the food supply—there should be produced from one to two tons of honey for every parish in the whole country, which was a great consideration. There was also the need of bees for fertilisation of fruit blossoms and also of the white clover, which would be cleared out of the country if the bees were not brought back. Unless they could take action with regard to these diseased hives he had very great fears as to the success of the re-stocking scheme. He might mention that he heard that day of bees having been put on to old combs, and they were apparently keeping healthy, so the disease increased in mystery as they went on.

Mr. H. M. Riley mentioned that the Notts Association had secured a grant of £30, which was used for compensating bee-keepers whose hives had become diseased. He wished the County Council would give them some help.

The Secretary, Mr. Waterfield, urged members to keep in touch with the Association. He had been informed by the district secretary that one member who gave £1 last year had subscribed £5 this year, and another £5 for the re-stocking scheme. He was sorry the County Council had declined to take an interest in the Association. The Curator at the Leicester Museum, who had lost his bees twice, had consented to make scientific experiments to see if he could throw light on the "Isle of Wight" disease, and this should be a great help to them.

Lady Levy was re-elected President, and the Vice-Presidents:—Mrs. Copus, the Misses Levy, Sir Maurice Levy, Mrs. Jeffery Clark, Sir Humphrey de Trafford, Sir John Rolleston, Mr. E. H. Warner, Councillor E. J. Underwood, and Mr. A. L. Stocks (Kegworth).

The Rev. J. F. Anderson was appointed Chairman, although he mentioned that he had volunteered for National Service, and might be moved from the parish. Mr. Falkner was appointed Vice-Chairman.

The Executive Council appointed was:—Messrs. J. J. Abell (Newbold Verdon), C. W. Bassant (Melton Mowbray), S. Clarke (Leicester), G. W. Dunn (Glen Parva), T. H. Earp (Lougborough), J. Hackett (Hinckley), J. Hayward (Woodhouse), E. A. Jesson (North Kilworth), A. J. Marriott (Market Harborough), W. E. Moss (Hinckley), A. Spencer (Leicester), J. Thompson (Quorndon), and H. Geary (Enderby); Hon. Treasurer, Mr. H. M. Riley (Leicester); auditor, Mr. W. K. Bedingfield (Lutterworth); hon. secretary, Mr. John Waterfield (Kibworth); Representatives to British B.K. Association, Messrs. H. M. Riley and W. W. Falkner.

A short discussion ensued over the disease question, and particularly as to the cleaning out of the hives.

Mr. Bedingfield said they must help themselves.

Mr. Hayward said they were cleared out in the Woodhouse district, where the disease was still rampant. At Swithland what was one of the healthiest colonies in the county was rapidly dwindling away. He wished to know if it were desirable to enter the re-stocking scheme with the disease all around.

Mr. W. P. Meadows said he was hopeful they would combat the disease.

Mr. Falkner advised members to keep on, and others reminded the meeting that the scheme was not only for personal benefit but for the Association.

In the evening prize drawings were held, and a lecture on judging of honey was delivered by Mr. A. G. Pugh, of Beeston.

A WONDERFUL CITY.

THE LIFE STORY OF THE HONEY BEE.

By Oliver G. Pike, F.Z.S., F.R.P.S.

(*Continued from p.* 114.)

CHAPTER IX.

A GLANCE AT THE FORSAKEN CITY.

Let us now go back for awhile, and glance at the City of plenty which the swarm that we have followed had forsaken.

As we watched the excited bees pouring out in one animated stream, it seemed almost impossible to believe that there could be any bees left behind in the hive. Such numbers came out and flew around that we wondered how that little wooden box which formed their home could contain them all, much less have any left. But when we return to the hive, lift off the roof, take away the carpet covering, and glance at the frames, we still see a multitude of bees there. Some thousands cover the wax walls, but they look very different to the lively, eagerly working swarm we have just left. A sweet scent of honey, ripening in the open cells, greets us as we lift comb after comb from the body-box of the hive. On each comb there are thousands of cells capped over with light brown coverings; each single one containing a sleeping nymph, only waiting for the allotted time to pass before it bites its way through to the world outside. Their time of sleep and rest will soon be over; and they will find themselves in a City that knows of no repose, and that has no place for sluggards that care not for work. Here and there we find a number of empty cells, and around these several pale-looking bees; these are the young which have just come into their perfect existence. The whole population is principally composed of these young bees, although we see many hundreds of old bees as well, but most of these are out in the fields gathering fresh stores. What mysterious impulse is it that makes some bees join the swarm, and others to stay behind? For we find in the swarm hanging on a branch, young bees and old, Drones and Workers, and yet in the hive there are old and young also. What marvellous power influences these two groups of bees, some going off to found a new City, others staying behind to guard and preserve the old home?

Forty thousand sleeping nymphs then cover the walls; ten thousand Workers are still in the hive, and although ten thousand bees would be considered a small stock by the modern bee-keeper, yet signs of a great increase are everywhere seen. Each comb hanging from its wooden support contains thousands of bees more or less ready to leave their cells, while the whole hive gives promise of future good work.

On one, two, or it maybe three of the central combs, there hang long cells, an inch or a little more in length. Each of these contains a future Queen in a different stage of development. These are guarded by a vigilant group of bees. They surround these cells, they seem always to be doing something to them. There may be a little piece of wax here which needs taking off; perhaps elsewhere is a place where more is needed; but all the time these guards keep strict watch over the cells which contain the future mothers of the City.

From six to nine days after the old Queen went off with the swarm, if we had approached close to one of these cells, we should have heard a curious chipping or scratching inside; then as we continued to watch we should have seen two tiny jaws sticking through the thin end of the cell, slowly biting the end off. About nine-tenths of the circle are thus bitten, then the cap is pushed by the Queen inside, the bottom bursts open, like a little door attached to a tiny hinge, and out walks the royal princess.

At first she seems bewildered; she turns to right or left, and hesitates, goes back and looks at the strange cell she has left, then runs forward again. Not the slightest notice is taken of her by the Workers; no attendants run forward to care for or caress a virgin Queen; she must shift for herself, and find her own food. A sudden impulse makes her dart to where the open vats of honey are standing. Without any hesitation, her head is plunged in and she helps herself freely to the tempting store, then passing on to where the different coloured pollen is carefully housed, she takes a supply of this also. For a short time she stands on the comb, preens her wings with her legs, strokes her eyes and antennæ, and in a few minutes the same mysterious power that we have seen signs of elsewhere tells her that there are rivals present.

But let us just glance at the cell that we have seen vacated. Directly the Queen had finally left, a Worker bee runs in, and ravenously devours any of the royal food which may remain inside, and a few hours later some Workers come forward, and demolish the cell and level it with the side of the comb.

The young Queen now runs quickly about the comb, and looks here and there for those other princesses which she knows are present somewhere. All the combs will be searched, and, not finding any of these creatures which she looks upon as enemies, she still runs about. A mad impulse to slaughter something seems to seize her; at last she alights on one of the golden cells containing a royal nymph.

For just one brief moment she glances at this, then with a vicious dart she flies at it, and with her jaws madly endeavours to tear open the waxen walls. She twists round and round, digs and scratches at the cells, and at last makes a breach in the tough wall. Seeming as if she were pleased, she looks for a second at her work, glances at the silent white sleeping nymph inside, then turns and inserts her sting, and stabs and stabs at the unfortunate creature within. Some Workers come forward to help finish the work; a greater breach is made in the walls, and the unborn Queen is ruthlessly pulled from her cradle and carried by one of her more humble sisters to the great world outside; there her body is dropped, and either wastes away or is picked up by a bird. The young Queen, not yet satisfied, rushes at the next cell, tears this open in the same way, then on to the next, until, utterly exhausted, her passion seems to abate, and what she cannot complete, the Workers do for her, until the royal cells that graced the side of the walls are no more. Still no notice is taken of her; still no attendants attempt to feed her; it is not until after she has taken her nuptial excursion through the air that the other bees look on her as a mother, and now, until then, she must shift for and care for herself.

The description of the virgin Queen's passion and destruction just given, only applies when the bees do not wish to swarm again. Sometimes, however, the power that governs the hive decrees that another swarm shall be sent out. If that is so the events which happen in the depopulated City are very different.

The same vindictive passion seizes the first young Queen which escapes from the cell, and she darts at the cells containing the princesses. But now strong guards effectually protect them. Whichever way she turns, she meets determined, resolute sentries, which will not allow her even to touch the waxen palaces. She, also angry and determined, darts on to another Queen cell, but is there met by the same guards. Maddened by rage, she then rushes up and down the combs, and the interior of the hive shows signs of serious tumult. She darts out of the entrance into the cooler atmosphere outside, flies back to the heated hive, where an excited throng gathers around; again she flies out, and a few thousand bees follow, and for the second time in ten days the hive sends out a swarm with the young Queen at their head. She is energetic, not overburdened with work or age, as was the case with the Queen, her mother that went before to found the new City. She has greater powers of flight; and hence, instead of settling close to the hive, she heads the swarm away a greater distance. These second swarms are called casts by bee-keepers; they are nearly always returned to the original hive, and if all the remaining Queen cells are cut out, they remain, but should the bee-keeper omit to remove one, the swarm will soon again come out, and will probably settle in exactly the same place as it did on the first occasion. This makes one think that the bees themselves, and not the Queen, will sometimes choose the place for settling. I had a case once happen in my own apiary that goes to prove this. A large first swarm came out and flew into an orchard; they passed over several trees and at last settled on a peculiarly shaped branch about twenty-five yards from the hive. Two days later, I think it was, a swarm came out from a hive standing forty yards from the former one, and these bees chose the same branch that the first swarm settled on. When a Queen bee has once selected a resting place, she leaves a strong scent behind, or some other indication that she has been there. These bees of the second swarm evidently knew that a Queen had settled on that same branch, and they clustered on it.

(To be continued.)

HONEY RECIPES.

[9440] In the B.B.J. of March 29, p. 94, I read with interest the recipes given for making marmalade with honey, along with the Editors' wishes for other recipes relating to jams made from honey. Below I give you my method of making jams from honey. We first tried honey for stewing plums last autumn, and we found it an excellent substitute for sugar. Seeing that it answered so well for the stewed fruits we tried it for jam-making, and it answered the purpose splendidly. We could not get any sugar at the time for jam-making, so we resorted to the use of honey only, and we made all our jams with it, and we are using the jam to-day, and it is splendid. If it had not been for the honey we should have been without jam some weeks now. The quantity of honey used was about ¾lb. to 1lb. fruit, but ½lb. to 1lb. fruit will do. Of course, some people like jam sweet, and some do not. Honey can be added according to taste.

There is another method we tried. As most of the early fruits are ready before the honey is ready for taking, the fruits can be bottled when not too ripe, and

used just in the same way as making ordinary fruit pies, and sweeten with honey instead of sugar, and in this way you have good fresh fruit all the year round.

Here is my method of preserving whole fruits. Get some good wide-necked glass jars, fill up to the neck with fruit (whole), then cover with cold water. Place them in a cold oven, then heat the oven, and just before the boiling point is reached the fruit will begin to crack and fall. Fill up to the neck out of one of the other bottles, then stand the jars on a table to cool. When just lukewarm pour a little hot mutton fat on the top of the fruits, when cold the mutton fat will set, and they will be perfectly airtight. Store away in a dry place, and it will keep for months. We are using plums at this present time that were bottled last autumn, and they are excellent. We have only had one bottle spoiled, and air had got in through not having sufficient mutton fat on the top. Be sure that they are *perfectly air-tight*.—E. J. THOMPSON, The Apiary, Gowdall.

HIVE CONSTRUCTION FOR AMATEURS.

[9441] Being a regular reader of the B.B.J. I should like to offer a little friendly criticism to Mr. G. F. Gee's design of a W.B.C. hive.

In the B.B.J. for April 12, page 113, is illustrated the "Corner Joint of the Outer Casings." What struck me was the tongue and groove joint. Now we in the trade would consider this unsatisfactory, as the shortness of the end grain would always be likely to break away. The groove would be quite suitable if the sides were permitted to be extended, but this could not be allowed.

I would suggest cutting the sides right away down to the level of the groove, and allow the back and front to go full thickness, or, on other hand, simple dovetailing would answer better.

On the whole, I think Mr. Gee's design is a very practical one.—H. J. STRIDE.

Notices to Correspondents

"F. E. B." (Dorset).—*Bees Refusing to Use Water Fountain.* — Possibly the bees had "located" other water on the bank before you had provided any. There is nothing in the pine roots to attract them. You do not give any particulars of your fountain. It should be in a warm place, and bees prefer to suck the water from a moist substance rather than drink from a pool. (2) It is not a cure, but may act as a preventive in some cases. The dose is 60 grains of quinine dissolved in water acidulated with a few drops of sulphuric acid to each gallon of syrup.

"D. T. D." (Wrexham).—*Books for Beginner.*—"Bee-keeping Simplified," 7d., post free, or "The British Bee-keepers' Guide Book," 1s 8½d., post free from this office.

Suspected Disease.

CAPT. BRANSON (Hants.).—There is no doubt the trouble was "Isle of Wight" disease. No need to send any bees; your description of the symptoms is quite sufficient. It is not advisable to use the combs and honey for other bees. Better extract honey and wax for domestic purposes and burn the refuse and the frames.

C. EDWARDS (Northfield).—The bees are suffering from "Isle of Wight" disease.

"B. J." (Aylesbury).—It is "Isle of Wight" disease. See reply to Capt. Branson above. The hive must be disinfected before using again.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per work as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ¼*in., or* 5s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

PRIVATE ADVERTISEMENTS.

SIX strong, well-made Hives, standard pattern, in excellent condition, and other Bee Appliances, to be sold, cheap.—JONES, Highmead, Blakeney, Glos. e 16

WANTED, healthy Dutch Bees, in skeps or frame hives.—R. SHEPPARD, Hall Lane, Hagley, Stourbridge. e 17

WANTED, Bees, either skeps or on frames; state price.—SULMAN, Wilburton, Ely. e 20

TWO Section Racks, complete, price 2s. 6d. each; also ten empty Racks, all new, price 1s. each; particulars.—S. COCKS, Napton, Rugby. e 28

WANTED, stock healthy Bees, Dutch preferred.—MRS. NEWMAN, Inchanga, Teignmouth. e 29

EXTRACTOR, geared (Cowan's), very little used, equal to new, reversible cages for standard, shallow, and sections. Lowest price, £3 on rail, cash direct, or to BRITISH BEE JOURNAL.—MR. BEE, 51, Wickersley-road, Clapham Junction, London. e 30

SALE, 20lbs. Dadant's Light Brood, 2s. 7d., 5lbs 12s. 6d., carriage or post extra; 400 Standard Frames, in flat, 11s. 100; one Steele's Honey Press, No. 61, 18s.; also sundries.—HUNT, Bank-street, Somercotes, Alfreton. e 31

WANTED, stock of healthy Bees, on ten standard frames, 1916 queens; will give up to £2.—WORTLEY, The Mount, Bamford, near Sheffield. e 32

WANTED, May swarm foreign Bees. For sale, three 56lb. tins Honey.—WYATT, Bishopswood, Chard, Somerset. e 33

STOCK healthy Bees wanted, Dutch preferred. —MR. HOLLOWAY, Burwell, near Cambridge. e 34

WANTED, immediately, one or two W.B.C. Hives, standard pattern, complete, ready for use.—MILTON, 21, Fairfax-road, Derby. e 35

WANTED, two skeps of healthy Bees.—H. PALMER, 2, Galliard-street, Sandwich, Kent. e 36

WANTED, three stocks of Bees, Italians.—R. ROBSON, Cheviot-street, Wooler. e 37

USING HONEY WHERE BEES HAVE DIED FROM "ISLE OF WIGHT" DISEASE.

We receive many inquiries whether honey in the combs of hives where bees have died from "Isle of Wight" disease is wholesome for human consumption. The disease-producing organisms in both "Isle of Wight" disease and foul brood have no effect whatever on human beings, and the honey may therefore be used for domestic purposes with perfect safety. There is no doubt that hundreds of colonies of bees will have perished up and down the country from "Isle of Wight" disease, and there will probably be from 10 to 20 lbs. of honey in each hive. To allow this honey to be wasted is a sin, to leave the hives open for other bees to rob out is worse. When a colony is found dead, the bees and quilts should be burned as soon as possible, and the combs taken indoors, where it is impossible for bees to have access to them, and the honey should be extracted. Sometimes the cappings are soiled. This does not often happen, but in that case the cappings should be pared off as thinly as possible, and the honey that drains from them need not be used. If the bee-keeper does not possess a honey extractor, the combs should be cut out of the frames, first paring off any spoiled cappings. That portion of the comb containing honey should be cut off and broken up as small as possible, and the honey strained from it. The best method of doing this is to tie one or two thicknesses of muslin over the top of a conveniently-sized vessel, and place the mass on it, or a bag of muslin may be made, into which the comb is put, and the bag and contents hung over a vessel until all the honey has drained away. If the honey thus obtained is too dark in colour for table use it will serve admirably for use in cooking, for cakes, puddings, etc., or it may be used for jam making. The comb, if not too old, may be melted down for wax and the refuse burned. A wax extractor is, of course, the best for this purpose, but, failing that, the old-fashioned way may be resorted to. Place the comb in a canvas bag, and put a brick or some other weight in the bag also, in order to keep it under water, put it into a pan or boiler with water enough to cover it several inches deep, and boil until the wax is all melted. The wax will come through the bag, and rise to the surface of the water. It will be a help if the bag is occasionally stirred about with a stick while the water is boiling. When all the wax is melted allow all to cool down; when cold the wax may be lifted off, and the dross scraped from the underside. Although the long boiling will probably have sterilised the residue of comb and the water, it is safer to burn the former and dig a hole in the garden in which to pour the latter. We would emphasise that during all these operations no live bees should be allowed near combs, frames or honey.

BY NEMO.

Ridding Colonies of Bee-louse (Braula coeca).—M. P. Paton mentions in *l'Abeille et sa Culture* a method of ridding bees of the vermin and parasites which have attached themselves to their backs, and live at their expense, which must weaken and torment them, considering their relative large size. Purchase for 10 centimes (one penny) some camphor, which is placed on a piece of cardboard, and in the evening is slipped through the entrance on the floor board, just under the bees. Next day a good number of the parasites will be found dead on the cardboard. In three nights the writer found as many as 373 lice which had thus lost their lives. The camphor should be in large grains, so that the bees cannot carry them out of the hive.

Tartaric Acid in Syrup.—In the *Schweitzerische Bienenzeitung*, Dr. Brünnich seems to be quite pleased with the use of tartaric acid, which he adds to the syrup for feeding bees. After adding the acid, care must be taken to boil the solution for several minutes. This is the way he proceeds:—The acid is dissolved in an equal weight of water, and a tablespoonful of this solution is added to 5 litres (about 8¾ pints) of syrup, which must then be boiled for a few minutes. The tartaric acid causes the inversion of cane sugar into fruit sugar. This is a powerful antiseptic and preventive of foul brood, and also prevents the crystallisation of the sugar syrup, and as a consequence thirst and dysentery, which Dr. Brünnich believes are the direct causes resulting from this crystallisation.

How the Arabs Collect Wax for Trade Purposes.—M. Gasquet gives a curious

description in *Nahla* of the way the purchasers of the wax from Arabs proceed. He says he was at the market of Issers, about seven o'clock in the morning, and saw two native merchants, in the open and in full sunshine, who purchased from all who brought little or much of combs from which the honey had been extracted by squeezing between the hands, whole combs as well as broken and crushed ones. Some contained brood in all stages of development in a putrid condition, showing unmistakable foul brood, others containing sealed brood. All the combs were more or less invaded by wax moth, the whole lot being a veritable centre of infection for the thousands of robber bees which were swarming on this mess in search of the honey. At ten o'clock there were so many bees that they quite obscured the sun from the heap which was gradually increasing in size. Towards noon the merchants, considering their purchases ended, proceeded to open large sacs and put into them the combs, each cell of which contained a robber bee, and lumps of crushed combs containing little wax, but occupying much space, and when filled the opening of the sac was tied up, imprisoning the thousands of buzzing bees in it. The two Arabs then put the sacs on the ground, and trod on them with their feet until the contents were crushed flat. The sac was then opened, the prisoners no longer buzzing, as one may well imagine after this process. The contents were then pushed down to the bottom of the sac, more combs were added, and the same process was repeated three times until the sac was full, and it was then thrown on to the wagon for removal. M. Gasquet remained for some time contemplating this massacre, and reflected that this was happening that day at Issers, then it would be Bordj-Menail, Souk-el-Haad, Beni-Amram, Palestro, etc. Daily similar massacres would take place for several months. At last the wagon moved away, with 19 sacs of dead bees and a little wax.

Apiculture in Macedonia.—In the *Revue Eclectique d'Apiculture*, M. A. Mathieu says that in Macedonia bee-keeping is very backward. The Bulgarians before the retirement had pillaged everything they could find, not even sparing the skeps of bees, which must have been very palatable, because in this country there are extensive uncultivated tracts, the flowers of which must permit of a large harvest of honey. These hives are, however, not practical, for they are mostly bell-shaped, and are of basketwork made of osiers daubed over with clay. He also saw some made of rushes, similar in shape to the skeps used for supering, with flat tops.

NORFOLK BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the above Association was held at Melton Constable recently. There was a small attendance of members owing to the curtailed railway service. Mr. Platten (Bristol) was in the chair.

The Secretary (Mr. J. A. Bramley) presented a statement of accounts. Balance from 1915, £16 11s. 4d.; subscriptions, £3 2s. 6d.; total receipts, £19 13s. 10d. The expenses amounted to £6 13s. 9d., leaving a balance of £13 0s. 1d., which was considered very creditable considering the falling off of members' subscriptions due in a large degree to the losses of stocks sustained by members.

The Secretary, in his report, emphasised the urgent necessity of doing all possible to combat "Isle of Wight" disease, which was causing great anxiety amongst the members, and it was agreed, on his suggestion, to write to the Norfolk Education Committee with a view to their co-operation in the matter.

The Secretary and the Chairman were appointed to interview the secretary of the Norfolk Education Committee at an early date.

The following officers were appointed:—President and representative on Council of British Bee-Keepers' Association, Mr. H. W. A. Deterding; secretary and treasurer, Mr. J. A. Bramley; auditor, Mr. H. Bond; committee, Mrs. Tatam, Misses Leaver and Verrall, Messrs. Platten, Woodhouse, Bond, Rush, High and Walpole.

It was further decided that owing to paper shortage, no detailed reports be published and circulated. No shows are to be held, but it was considered advisable that examinations for expert certificates should be held at two convenient centres during the coming season.

SUSSEX BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the Sussex Bee-Keepers' Association was held at the Committee Room, Town Hall, Lewes, on Wednesday afternoon, April 18, the Mayor of Lewes (Councillor A. E. Rugg) presiding over a representative attendance of members.

THE POSSIBILITIES OF BEE-KEEPING.

The annual report stated that in spite of abnormal conditions the membership was excellently maintained, there being 123 members on the register. The committee regretted to have to report that

the appeal to the Sussex Education Authorities for the introduction of bee-keeping into the schools as nature study had not met with the success they had hoped. They looked forward, however, with confidence that something might be accomplished in that direction in the near future. Owing to existing conditions the committee were again compelled to abandon all idea of an exhibition of bee-productions. The accounts showed a balance of cash and stock in hand amounting to £4 11s. The committee looked forward to a greater future for bee-keeping, confident that through the many lessons the war was teaching the now vital question of home production must become a deep-seated conviction. The economic value of their industrious little friends would then be more fully realised and their associations would become institutions of national importance.

The report of Mr. C. T. Overton (Crawley), the Association's expert, upon his 1916 visiting tour stated that the bees were found in much better condition. There was a most remarkable flow of honey, a large surplus being secured. Single stocks that had the necessary attention gave 100 to 150 lbs., besides having stored sufficient to carry them safely through the winter. It grieved one to think that so few bees were kept in the county and that so much honey was lost for the want of bees to gather it, especially as honey could take the place of sugar in many different ways. He was quite sure that if only sufficient bees had been kept in Sussex during this wonderful flow something like £50,000 worth of honey could have been secured. Visits were paid to 102 members and 448 frame hives and skeps were examined; 38 stocks were found dead; four were affected with foul brood disease; and nine with "Isle of Wight" disease. It was practically impossible to manage bees properly and so obtain the best results without learning the condition of the hive and the proper and best way to handle them. Honey was one of the best possible articles of food, and therefore the bee-keeping industry was beneficial to the country in general.

The Mayor moved the adoption of the report and balance sheet, and remarked that bee-keeping was a branch of home industry which might well be undertaken more widely, thus saving the very large importation of honey which had taken place in past years.

Mr. Cowell seconded. He remarked that during the war the Association was simply maintaining its ground, but when peace came it was their intention to take up educational work again and endeavour to get the County Education Committees to give the question serious consideration.

Mr. Godfrey moved a vote of thanks to the officers of the Association for last year's work. He paid a special tribute to the work of Mr. F. Kenward as hon. secretary, saying that Mr. Kenward was an enthusiastic bee expert, and the success of such an Association as that depended largely upon the work of the secretary. They were also fortunate in having Mr. Overton as their expert.

The motion was carried.

The following were appointed officers: President, Earl Winterton, M.P.; vice-presidents, Sir Thomas Barrett-Lennard, Bart., Mrs. Sharman, Mr. W. A. Sturdy, Sir Stuart M. Samuel, Bart., the Rev. D. L. Secretan, Col. James Templer and Dr. G. Murray Levick, R.N.; hon. auditors, Messrs. W. Hill Hunter and Co.; hon. secretary, Mr. F. Kenward; expert, Mr. C. T. Overton; committee, Miss Savage, Mrs. Morris, Miss Hay, Miss Allison, the Rev. A. C. Atkins, Mr. W. T. Cowell, Mr. B. J. Burtenshaw and Mr. J. M. Jackson.

On the motion of Miss Savage, seconded by Mr. Cowell, the rules were amended to provide that subscriptions paid by new members on and after September 1st should include the period to December 31st of the following year, it being considered unwise to compel persons joining so late in the year to pay the subscription for that year.

Mr. Kenward read the letter he had sent to the Education Committees of East and West Sussex, which stated: "We are being urged on all sides to produce more, and it is felt that at such a time as this every encouragement should be given to home production. The great importation of honey into this country increases. The registered value of honey imported into the United Kingdom during the month of January, 1916, as furnished by the Statistical Office, H.M. Customs, was £8,207, thus proving the demand for this wholesome and valuable product. English honey has no rival in quality, and it is felt that our home demands could be met if bee-keeping were more encouraged and popularised. Bee-keeping provides a most fascinating and lucrative occupation, while the insect furnishes a delightful and charming study, and its inestimable value to agriculturists and horticulturists in the fertilisation of blossoms makes it worthy of consideration. It is known in cases where bee-keeping classes have been formed that keen interest has been shown by the children, and many have become enthusiastic bee-keepers and ardent lovers of nature. It is felt, too, that bee-keeping lessons for children would prove valuable just now, as the country will probably

be faced with the serious problem of employment for disabled men, many of whom will have to seek light outdoor work. The child's knowledge of bees should prove a great help in this direction." Mr. Kenward stated that East Sussex Education Committee had decided to do nothing in the matter of bee-keeping instruction in the schools; and West Sussex Education Committee had asked where bees could be obtained for the purpose suggested.

The Mayor suggested that the Education Committee officials might be approached, and the suggestion placed before them with much more prospect of success than by correspondence.

Further action in the matter was left to the committee.

A cordial vote of thanks was accorded the Mayor for presiding, on the proposition of Mr. Cowell, seconded by the Rev. A. C. Atkins.

EXTRACTS AND COMMENTS.

Prune Pollination. — Mr. Orel L. Hershiser writes as follows in the *American Bee Journal*:—"Bulletin No. 274, of the California Agricultural Experiment Station has for its title, "The Common Honeybee as an Agent in Prune Pollination." It is written by A. H. Hendrickson.

It appears that insects are extremely scarce in the Santa Clara Valley at the time that the prune trees are in bloom, with the result that the crop is not so large as it might otherwise be.

Experiments were conducted with trees entirely protected from bees and other insects by netting, and with others having adjacent to them plenty of honey bees. The results were as usual; the bees' proximity resulted in a much larger set of prunes, especially with the French variety.

The best results will probably be obtained by bringing in bees from outside and scattering them about the orchard with at least one colony to each acre.

Nougat.—Three cups of granulated sugar, 1½ cups of any kind of nut meats (preferably English walnuts), two-thirds cup of honey, two-thirds cup of hot water, and the white of one egg beaten stiff.

Boil the sugar, honey and water together until they make a rather hard ball when dropped in cold water. Remove from the fire, pour in the beaten white of the egg and beat briskly with a silver fork. After beating awhile, pour in the nut meats and continue to beat until it begins to make a hard creamy mass, then pour into a buttered tin or platter to cool.

No better, more wholesome or delicately flavoured candy is obtainable at any price. Try it."

Comment on the first part of the letter is needless.

Carniolan Bees.—We do not now hear so much of these bees as we did some years ago. The following article on them from the *American Bee Journal* by Frank Rojina, University Farm, St. Paul, Minn., will perhaps be of interest:—

"Nearly three years ago I left Carniola, a State in Austria of 3,886 square miles, with 525,000 population, to study American bee-keeping at the University State Farm, under the supervision of Prof. Francis Jager. Carniola is a country with mountains rising to a height of 12,000 feet, the sides of which are covered with fir and deciduous leaf-bearing trees. For over 300 years the inhabitants (Slovenes or Slavs) have given many thousands of colonies, honey and wax as payment for taxes. From that we can see how educated were our grandfathers, by steady work with the Carniolan bees. In 1769, Empress Maria Teresa, of Austria-Hungary, took up bee-culture, and appointed a Carniolan, Anton Jansa, professor of bee-keeping in Vienna, making an appropriation of $600 a year that he might spend his entire time with the bees.

Jansa lectured at the public gardens in Vienna, also travelling around as an extension man, giving methods of bee-keeping as practised in his native State. It was something new to the people of Vienna to see a Carniolan hive, as they were using only straw hives. The Vienna township had used his methods and hives only three years when the production of honey and wax in two months' time was valued at $10,500, as against $2,000 or $3,000 before.

Jansa, himself, when he started in 1770 had only 16 colonies, and in two years' time increased his apiary to 300 colonies. During this time he discovered parthenogenesis and what we call the McEvoy foulbrood treatment, writing many articles for publication of this discovery. Not until a long time afterwards did the professors and people in Vienna believe in him. He discovered the drone was the male bee, fertilising the queen while on the wing, and also that an unfertilised

queen is no better than an ordinary worker-bee, laying only drones, while the fertilised queen lays two kinds of eggs in all the cells, unfertilised in the drone cells and the fertilised in the worker cells.

Jansa published a book entitled "Swarming," which was of great benefit. Later, his second book, nearly completed at his death, was published by one of his students. It is entitled, "Complete Information on Bee-keeping."

It is too bad that Anton Jansa is not known among the American bee-keepers. The Austrian bee-keepers call him the first and Dzierzon the second great man in bee history.

All the bee-keepers in Carniola have bee houses, about 60 feet by 20 feet, and about 12 feet high, built of logs with brick foundations, the home of their bees for summer and winter. For the winter months these houses are provided with curtains made of straw mats which roll down on the outside, making the bee houses wind and snow proof. There is very little packing done inside the bee house, which is kept at an even temperature of about 50 deg.

The principal hives in use are the Carniolan, measuring about 1,600 cubic inches, with movable frames. There are a few box hives. Many improved hives are used for experiments. These are the Vienna, Bohemian, all kinds of German, and a few American hives.

The principal honey flowers are the red buckwheat, which gives nectar only in the morning; red, white, blue, and yellow clovers, basswood, dandelion, which gives only pollen; blueberries, wild and common chestnut, which produce very dark honey, and many others. A pure Carniolan colony with a young queen may harvest in a year from 200 to 300 lbs. of honey.

The extracted honey is put into bottles, pails, and small barrels, and is sold at an average of 30 cents a pound. Some is sold in the combs, but the extracted honey brings a better price, as it is used a great deal in cooking. Since the outbreak of the war, I hear from home that honey sells for $2.00 per lb. Clean wax is made into cakes selling at about 53 cents a pound, and is used in making candles for the churches. A colony of bees sells for about $4.00.

The Carniolan bee is in colour silver or light grey. It is a little larger than the Italian, and is very gentle. Carniolan bees are very prolific, are good honey gatherers, and do not propolise as much as other bees. They cap their honey clean and white, and are good resisters against moths and disease.

Carniola has a Bee-keepers' Association which meets yearly, and there are many subordinate associations, one for each township, which meet every Saturday. There are about 900 members in the head association. All the advertising matter is published in their monthly magazine, *The Carniola Bee-keeper*, the editor of which is Francis Rojina, my father. The estimated number of colonies in Carniola for the year 1910 was over 53,000; in all Austria over 2,000,000, with a product of more than $9,000,000.

From earliest boyhood I watched and helped my father with his apiary of 500 colonies, and he took me on many of his lecture trips and to the National Bee Association meetings. The happiest days were those with father on his trips into the deep woods on the mountain sides, where he visited and bought the purest Carniolan bees. The best queens were carried home in small cages that were strapped to our backs.

To me the Carniolan bees are the best. The only fault the American bee-keepers have to find with them is their swarming, and this is caused by using too small hives. As soon as they are transferred to hives that can be enlarged, giving the queen room to satisfy her breeding capacity, she loses her inclination for swarming without losing her prolificness."

Referring to Mr. Rojina's statement that Jansa discovered that the "drone was the male bee, etc.," the editor of the *American Bee Journal* says:—"Mr. Langstroth, himself, reported the fact that Jansa discovered that young queens leave their hives in search of drones, long before Huber's investigations. This is mentioned on page 57 of our 'Revised Langstroth.'

So we gladly insert and report that statement which he makes that Anton Jansa is called the first great bee-keeper and Dzierzon only the second by those who have been acquainted with the facts. This does not detract from the fame of Dzierzon, for his discoveries were original, and it was through him that the facts became well known to the mass of bee-keepers. How few there are who can really lay claim to an original discovery may be realised from this occurrence."

HONOUR TO LADY BEE EXPERT.

At the ordinary meeting of the Royal Microscopical Society, held in February, Miss Nancy M. Robinson, first-class bee expert, British Bee-keepers' Association, residing at Glassel House, Aberdeenshire, was elected a Fellow of the Society.

POLLINATING FRUIT TREES.

LESLIE GORDON CORRIE.*
(*Queensland Acclimatisation Society, Lawnton, Queensland, Australia.*)

It has long been recognised that the chief purpose of a conspicuous flower is to attract insects, which may act as the agents in transferring pollen from another individual. Failing, however, the arrival of any foreign pollen, many flowers are able to set seed with their own pollen and in fact many flowers are provided with various elaborate contrivances, to effect self-pollination, should cross-pollination fail.

There are, however, a large number of plants, which, even when carefully self-pollinated, are quite unable to set seed or develop fruit with their own pollen.

To this set belong many of our common wild plants, and many of our cultivated plants, too; but what concerns the fruit grower most is that many, if not the majority, of our common fruit trees are in this category.

It has frequently been observed by practical men that large blocks of only one variety of apple or pear have fruited badly, except in the outside rows; others have contended that large blocks of one variety have fruited well all through. Both may be correct, and a good deal of the explanation depends upon a clear conception of the meaning of the term self-sterile. A plant is said to be self-sterile when it fails to set seed with its own pollen, though this same pollen may be perfectly potent on another variety. This should not be confused with such cases as occur in the gooseberry and the currant, where, though the flowers are perfectly self-fertile, fruit is but rarely if ever set, if the visits of insects are excluded; here it is chiefly a mechanical difficulty, as the stamens bearing the pollen are situated in such a position that they cannot come in contact with the stigma, the female organ; and, further, the pollen is of a glutinous nature. The practical difference is that, whereas in this latter case a supply of bees would ensure a crop of fruit, even if only one variety be grown, in the former no number of bees would make any difference.

FRUIT WITHOUT SEEDS

There are some varieties of apples and pears which will set fruit on being self-pollinated, but these fruits do not contain any real seeds; such fruits are of course more or less satisfactory to the fruit grower who wants fruit. This also occurs in some varieties of gooseberries; such berries are, however, decidedly lighter in weight than those containing seed, and are therefore obviously of less value to the grower: the apples without seed, also, are often inferior both in size and shape.

In plums and cherries these parthenocarpic fruits do not occur, at least not to any appreciable extent; an occasional fruit may be found with a shrivelled kernel, but I have noticed that, as a rule, if this shrivelling takes place before the fruit is well developed it falls, and I think that it is probably due to imperfect fertilisation.

Plums seem to be fairly equally divided between self-fertile and self-sterile varieties, and there are a few which cannot be directly classified as one or the other. In apples and cherries, self-fertile varieties appear to be greatly in the minority. Through experiments carried out chiefly on pot trees at the John Innes Horticultural Institution in a house where they were strictly isolated from insects, some of the commoner plums, cherries and apples can be classified as follows:

PLUMS.

Self-Fertile.	*Self-Sterile.*
Denniston's Superb	Coe's Golden Drop
Early Mirabelle	Coe's Violet
Reine Claude Violette	Wyedale
Myrobalan (red)	Grand Duke
La Prune Giant	Jefferson
Monarch	Reine Claude d'Althan
Early Transparent	Pond's Seedling
Reine Claude Bavay	Washington
Prince Englebert	Early Greengage
Early Favourite	Old Greengage
Gisborne's	Ickworth Imperatrice
Oullin's Golden Gage	Late Transparent
Golden Transparent	Curlew
Victoria	Prune d'Agen.
Czar	
Pershore	
Magnum Bonum (red)	
Magnum Bonum (white)	
Kentish	River's Early (Set only
Warwickshire Drooper	Prolific about
Damson var's	Stint 1 p.c.
	Mallard when
	selfed

CHERRIES.

Self-Fertile.	*Self-Sterile.*
Morello	Black Heart
Late Duke	White Hart
	Elton
	Kentish
	Big Frogmore Early
	Big Gaboulay
	Early Rivers
	Guigne d'Annonay
	Black Tartarian

APPLES.

Stirling Castle	Northern Greening
Baldwin	Lord Hindlip
Washington	Cox's Orange Pippin
	Bramley's Seedling

Parthenocarpic:
Lord Derby
Duchess of Oldenburg

* Mr. Corrie was formerly connected with the John Innes Horticultural Institution at Merton, Surrey.

It will be noticed that on the whole the self-fertile varieties correspond with the best croppers; this, however, though general, is not always the case, for Rivers' Early Prolific, which is usually a great cropper, is from a practical view self-sterile, setting only about 1 per cent. of its flowers when self-pollinated. May Duke cherry behaves in a similar manner.

I think it will be found that some varieties of plums are better pollenisers for certain varieties than others; when the Old Greengage and the Early Greengage are crossed together only about 8 per cent. of their flowers develop fruit. For several years I observed a large block of two varieties of greengages, and although they produced flowers in abundance they never carried a fair crop of fruit; owing to this they have been destroyed. I think that certain definite varieties of plums may prove to be the best pollenisers for the self-sterile gages. Cross-pollination has indicated this, and I have seen greengages, carrying good crops, growing beside Victoria plums.

If the flowers of self-sterile varieties of plums and cherries are not pollinated at all the fruit falls very soon, a few days after the petals, whereas if the flowers are self-pollinated the carpel swells up to the size of a culinary pea before it falls, but fall it will, and it is not until about three weeks after pollination that a self-sterile variety can be distinguished from a self-fertile one.

These self-pollinated fruits, of self-sterile varieties, tend to fall more quickly after a touch of frost, much to the consternation of the grower, who thinks that he has lost a high percentage of his crop from this cause. The careful observer will, however, notice many fruits falling on both self-fertile and self-sterile varieties, at times when there has been no frost; it is due in the former case solely to lack of pollination, and in the later to the lack of fertilisation as well.

BEES AND NECTAR.

It will be seen that it is very important to know one's varieties and in most cases to avoid planting large blocks of the same variety. It should be borne in mind that all the different trees of the same variety, which have of course been propagated vegetatively from one individual, are so far as self-sterility is concerned, but one individual—no benefit is derived by inter-pollination between such trees. It is known that bees have a wide-working radius, half-a-mile at least, and often they go further afield. It might therefore be argued by some on this account that there can be no objection to large blocks of one variety. It should, however, be borne in mind that it is nectar that the bees are after, and they are not concerned with cross-pollination, so that if there is one variety rich in nectar, there is no reason why the bees should do anything more than simply work backwards and forwards between the hive and this block. I have noticed that the plum, Denniston's Superb, is extremely rich in nectar, I have seen this variety carrying heavy crops of fruit, year after year, and I am inclined to think that its prolific quality is due to its richness in nectar attracting the bees.

It is sometimes stated that wind is an agent in bringing about the pollination of fruit trees. With some plants it undoubtedly is—in fact many are elaborately adapted for wind pollination, the pollen-grains of some cone-bearing trees having wings which enable them to be freely carried by the wind. To endeavour to discover what part wind plays in pollinating fruit trees, we enclosed two young standard plum trees in muslin of a mesh sufficiently small to exclude bees and large flies, but large enough to admit wind freely. One of these trees, a Victoria, bore one fruit; the other, a tree of Reine Claude Violette, did not develop a single fruit, whilst neighbouring Victoria trees carried quite fair crops. Both these varieties are self-fertile, and this clearly shows whether a tree be self-sterile or not. Insects are absolutely necessary for efficient pollination.

(To be continued.)

PRESS CUTTING.

"SUBSTITUTES."

The Germans have been prolific in "substitutes" since the war. Their chemists have concocted many forms of substitutes for food for the people. But long before the war German chemists were enabling German traders to reap a golden harvest from the fraud of the label, and, thanks to our system of Free Trade, we were the principal sufferers from the peaceful poison penetration of the Huns.

Among other luxuries the Germans sent us "Demerara sugar." A doctor at Bournemouth who kept bees bought some of this sugar and put it into the hives, but the bees immediately turned it out. The sugar lay on the ground, but, in spite of the heavy rain that was falling at the time,

IT DID NOT DISSOLVE.

The doctor, astonished at the conduct of the bees, and still more at the conduct of the sugar, submitted it to certain chemical tests, and found that it was not sugar at all, but yellow crystals. The stuff had been imported from Germany, and was being largely sold in certain grocers' shops.—From *The Referee*.

WEATHER REPORT.

WESTBOURNE.

April, 1917.

Rainfall, 2.17 in.
Above average, .43 in.
Heaviest fall, .62 on 2nd (snow).
Rain fell on 15 days.
Sunshine, 189.6 hours.
Below average, 2.9 hours.
Brightest day, 20th, 12.7 hours.
Sunless days, 1.
Maximum temperature, 63 on 29th.
Minimum temperature, 26 on 2nd.
Minimum on grass, 18 on 2nd and 5th.
Frosty nights, 13.
Mean maximum, 49.7.
Mean minimum, 34.1.
Mean temperature, 41.9.
Below Average, 4.3.
Maximum barometer, 30.547 on 26th.
Minimum barometer, 29.200, on 2nd.

L. B. BIRKETT.

Notices to Correspondents

F. PARSONS (Chesterfield).—*Commencing Bee-keeping.*—(1) It is not yet too late to commence this year. (2) Book an order for a swarm, and if you know a bee-keeper in the district who will give you information, have a talk with him before it comes. It will probably be at least a couple of weeks before you get it. (3) Natives or Italians, or a cross between the two. (4) You are liable to third parties for any damage caused to persons or property, but it would have to be proved that your bees did such damage. You can insure against this risk with the B.B.K.A. (see advt., page ii.). (5) Bees will occasionally sting poultry. (6) There is no need to spend a lot of time with the bees if they are properly managed. (7) The total cost depends on the type of hive used, and the price of the swarm. You can get one hive and all necessary appliances for 32s. 6d. to 37s., and a swarm of bees will cost a further 15s. or 20s. (8) "The British Bee-keepers' Guide Book," 1s. 6d., post free 1s 8½d., or "Bee-keeping Simplified," 6d., post free 7d., from this office.

E. S. STEEDMAN (Wycombe).—(1) We can only answer this by post if you send stamped addressed postcard. (2) It is wise to always have Naphthaline and Apicure in the hive. We can supply both (see page iv.). (3) The address of the secretary of the Bucks B.K.A. is Mr. E. Ff. Ball, Nockhill, Denham. (4) Any appliance dealer can get the candy for you. (5) Yes; we can let you have them at 1d. each and postage; there have been twelve up to date.

R. W. WISE (Woodford).—Clover and lime. The latter half of June and early July.

L. SNUCKER (Bridgnorth).—See Editorial.

Suspected Disease.

"LABOURER" (Driffield).—There was no disease in the comb, nothing worse than a little mouldy pollen. The bees may have deserted as you suggest, or have lost the queen.

"E. M. C." (Knebworth).—The cause of death was "Isle of Wight" disease. There is no fee, thanks.

C. P. GOUGH (Moore).—The bees were affected with "Isle of Wight" disease.

"NUNEATON" (Warwicks).—The trouble was "Isle of Wight" disease.

LOCKLEY, J. F. (Mumbles).—It was probably "Isle of Wight" disease. See Editorial.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

PRIVATE ADVERTISEMENTS.

WANTED, two stocks of healthy Bees, on frames. Will give reasonable price.—J. MERCER, Rydal Mount, Hough Green, near Widnes. f 16

TO CLEAR.—Two dozen ordinary Section Racks, 1s. 6d. each; six W.B.C. Hanging Frames Section Rack, fitted with frames and dividers, almost new, 4s. each; several good Hives, telescopic, 10s.—Address, "APPLIANCES," BEE JOURNAL Office, 23, Bedford-street, Strand, W.C. 2.

HEALTHY Stock of Bees wanted at once; immediate cash.—PAGE, Chalk, Gravesend, Kent. f 6

SELL, or exchange, Metal Copying Press; plate 14½ x 10½, for Raynor or other honey press, or offers.—NICHOLSON, Langwathby. f 14

WANTED, Geared Extractor, also Ripener, with strainer.—E. G. ROBERTS, "Moor View," Ivybridge, Devon. f 13

WANTED, any quantity of finest Honey.—W. A. WILLIAMS, 4, Victoria Arcade, Swansea. f 1

WANTED, Shallow and Standard Frames in flat; clean flat top Skeps; Queen Excluders; Honey Tins, various sizes.—JOHN FLOWER, Morestead, Winchester. f 2

WANTED to book, early swarm Italians or Dutch Bees; state price.—A. CURTIS, Semplemarsh-road, Addlestone, Surrey. f 3

WANTED, stock guaranteed healthy Bees; also Swarm.—CROSLAND, Atherstone House, Wilford-lane, W.B., Nottin. f 5

GOOD Hive, Gamage's, four legs, new condition; W.B.C. shallow 8-frame Super, new; drawn-out combs, clean; 16s. lot.—ATKINSON, Invicta, Hill-grove, Yeovil. f 7

STRONG Italian Swarms, 16s. 6d.; second Swarms, 11s. 6d.; package returnable.—CADMAN, Codsall Wood, Wolverhampton. f 8

STRONG healthy Stocks British Bees, in skeps on 10 bar frames, £2 10s. each; well packed.—DAVID HANCOX, Deddington, Oxon. f 9

WANTED, stock of healthy Bees, on standard frames.—GLYNN, 15, Melvin-avenue, Bowes Park, London, N. f 10

WANTED, two Hives of Dutch Bees, 10 frames each.—State price and delivery to F. KEMPSTER, 53, Carlton House, Regent-street, London, S.W. f 11

ITALIAN Queens, pure, fertile, reared by experienced breeder in France, like those supplied in 1915, 6s. 6d. each.—ELLIOTT, Kelvin-road, Ipswich. f 12

3 FRAME Observatory Hive, glass two sides and doors, £2 5s., lowest price; cash deposit with BRITISH BEE JOURNAL if preferred.—DRAPER, Yew Tree Villas, Park Gate, Swanwick, near Southampton. f 15

SIX strong, well-made Hives, standard pattern, in excellent condition, and other Bee Appliances, to be sold, cheap.—JONES, Highmead, Blakeney, Glos. e 16

WANTED, Bees, either skeps or on frames; state price.—SULMAN, Wilburton, Ely. e 20

WANTED, three stocks of Bees, Italians.—R. ROBSON, Cheviot-street, Wooler. e 37

WANTED, Stock of Bees, skep or standard frames, strong, guaranteed healthy.—FISON, Rawdon, Leeds. e 23

SELLING HONEY UNDER A FALSE TRADE LABEL.

The following brief report, taken from the *Co-operative News* of March 10, gives but a little idea of the time and trouble expended in order to bring these delinquents to book.

"KINNING PARK SOCIETY IN COURT.

"At the Central Police Court, Glasgow, on Tuesday, Kinning Park Society was prosecuted on a charge of having sold four jars of alleged pure heather honey which were found to contain 26.5 per cent. or thereby of sucrose, whereas pure heather honey should not contain more than 10 per cent. of sucrose.

"The society pleaded guilty, but an agent, on its behalf, explained that the society had acted in perfectly good faith in this matter, and that the honey came, through the Wholesale Society, from an Aberdeen honey-dealer who supplied the honey with a warranty. The magistrate said he must treat the case as one in which the society had taken less care in the matter than they might have done, and he imposed a penalty of £6 6s.

Under the circumstances it seems reasonable to ask why the society was prosecuted rather than the dealer who put the honey on the market under warranty."

We also print a report of the same case from the *Glasgow Herald*, which it will be noticed gives other important particulars.

"THE SALE OF HEATHER HONEY.

A GLASGOW PROSECUTION.

"Before Stipendiary Neilson at the Central Police Court, Glasgow, yesterday, the Kinning Park Co-operative Society, Ltd., 12, Coburg Street, South Side, were charged with having within their grocery premises at 194 to 200, Crookston Street, Kingston, on January 25, sold four jars of alleged pure heather honey which were found to contain 26.5 per cent. or thereby of sucrose, whereas pure heather honey should not contain more than 10 per cent. of sucrose. A plea of guilty was tendered. It was explained by Mr. Macintyre, Procurator-Fiscal, that sucrose was a sugar prepared by boiling from cane and beet, and that the attention of the Wholesale Society had been directed to the questionable nature of the honey by a Government Department nearly a year ago. On behalf of the respondents an agent stated that his clients had acted in good faith, having obtained the honey from the Wholesale Society, who in turn had obtained it from a honey dealer in Aberdeenshire, together with a warranty. They were wholly unaware of its composition, and had taken steps to withdraw all stocks from their shops. The magistrate said he must treat the case as one in which the society had taken less care in the matter than they might have done, and imposed a penalty of £6 6s."

We are, however, able to give our readers a few more particulars than are contained in either of the reports. In the first place compare the last paragraph in the *Co-operative News* report with the statement in the *Glasgow Herald* that "the attention of the Wholesale Society had been directed to the questionable nature of the honey by a Government Department nearly a year ago." The word "nearly" should, we think, read "over"; at any rate, the attention of the "Government Department" was directed to this case in February, 1916. In that month a sample of honey was sent to our office by Mr. J. C. Armstrong, of Grangemouth, asking our opinion of it. We considered it was principally foreign honey with a little heather honey added, but sent a sample to Mr. G. Hayes, Beeston, for an examination of the pollen grains, and his report was that the honey was from the Mesquite—most likely Hawaian honey—with about 10 per cent. of heather honey added. We took the honey and this report to the Board of Agriculture, and the officials there promised to look into the matter. The dilatoriness of Government Departments is almost proverbial, but when we have on previous occasions directed the attention of the Board of Agriculture to this class of offence, the officials concerned (the Commercial Control Branch) have acted with commendable promptitude, but beyond a formal acknowledgment of the sample of honey and the complaint we heard nothing further. In May, 1916, Mr. Armstrong wrote asking if anything was being done, as he had heard nothing. On inquiry at the Board of Agriculture we were told that the matter was in the hands of the Board of Agriculture for Scotland, and there the matter appeared likely to remain. The London officials are *slow*, but those at Edinburgh were almost immovable, and it has only been by the perseverance of Mr. Armstrong that the prosecution took place at all. The Co-operative Wholesale Society is such a large concern, with so much influence, one is led to wonder if the delay in prosecuting was due to the influence of some "hidden hand." Mr. Armstrong brought the matter to the notice of Major Chapple,

M.P., and also tried various other officials in order to get the matter forward. Eventually we received from him the following letter, dated December 21, 1916 :—

"I was asked to-day to call on the Fiscal, or Public Prosecutor. In Scotland here, if a man hits you on the nose you don't require to take a summons out against him, you report the matter to the police by lodging a charge against the party. The police investigate the charge, and report the case to the Fiscal, who prosecutes, and the aggrieved party is summoned as a witness and is paid a fee for attending. Well, I was asked to-day to go to Falkirk, and see Mr. Lair, the Fiscal for the Eastern district of Stirlingshire. I had a talk with him. He had a letter before him from Major Chapple, the local M.P., who had written him concerning the heather honey. Mr. Lair has written to the Board of Agriculture, but has had no reply, although it is two or three weeks since he wrote. I was asked a number of questions about the production of honey and heather honey. Then he asked me, was it worth while to bother with a matter like that, wasting his time and that of the Sheriff in Glasgow and various others when we had the Kaiser to fight. I asked him if it was fair for the S.C.W.S. to perpetuate a fraud on the community even although we had the Kaiser to tackle, so that finished it. He called in his shorthand clerk, and took my statement and answers to his questions, which he will forward to the Fiscal in Glasgow. I am the complainer. I will give you a statement of questions and answers.

"Statement 1: 'Heather honey is gathered from the flower of the heather which blooms in August and early September; before that a considerable quantity of honey is gathered by the bees, but most of it is removed before the heather is in bloom, and in a heather district it is nearly all heather honey that is in the hive at the close of the season.'

"Question: 'Are you a bee-keeper and dealer in honey, and how long have you kept bees?'

"Reply: 'I have kept bees for thirty years, when I was living where I could keep them, for the past seventeen years in Grangemouth, but I do not deal in honey. I sell sufficient of my own production to pay expenses, but I buy no honey to sell again. I occasionally buy heather honey for home consumption.'

"Q.: 'Do you get heather honey from your own bees?'

"R.: 'I usually take my bees to the moors to get a supply of heather honey.'

(To be continued.)

A DORSET YARN.

The bees this last two weeks have been having a real good time. They still visit the seed-bearing willow; the cowslip and other spring flowers give them nectar and pollen in abundance. The thousands of gooseberries have still the same charm for them, and to-day, May 5, the Jargonelle and Le Bonne pears are covered with flowers. Long lines of Buerre Diel and Doyenne du Comce have blossoms in abundance.

Three stocks are clustering out for swarming. The first eight sections of this season's honey were sold by auction in the Farmers' Co-operation Salerooms, making good prices. The sections had the foundation already drawn out, and they were filled in nine days, and to-day others that had whole sheets of foundation have been drawn out and nearly filled. These are on bar frame hives. On the tops of the bars I had to take off comb filled, but not sealed, with deliciously flavoured honey. I sent our parson some down. He was very lavish with praise for the quality.

This lot I bought at a sale last autumn. They were covered down with newspapers and farmers' seed catalogues, and had built two and three inches of comb on the bars, heaving up the paper, as they wanted room; now they are filling sections in quick time.

I think we have still lots to learn in covering up in autumn to stand the hard winters. These stocks stand exposed, yet are very strong; only a large hayrick on one side.

I do not know how much water the bees drink in the breeding season, but our Dorset bees are very thirsty creatures. This morning at five o'clock, after watering the wallflowers, I gave them a gallon in a large shallow tray, with some old brood foundation floating on the top. At three o'clock it was all gone. They had another half gallon, which was all cleared up at 8 p.m. when I looked round. Granted that some evaporates, but this seems to be a lot for twenty stocks.

Text books tell us the bees feed their young on honey, pollen and water, the latter in larger quantities than is generally known. Last year a large iron boiler was soon emptied by the bees. The rough iron sides allowed them to sip and get back without falling in; that was where I learned the lesson of plenty of water during the breeding season.

I notice the large poplar trees (the Lombardy) are in flower. I do not know if there is any honey to be got from them. The flowers are too far up to see, but the bees diligently search the red flowering currant that is planted for ornamentation.—J. J. Kettle.

HONEY-YIELDING FLOWERS OF BRITISH COLUMBIA.

W. J. Sheppard, Nelson, Kootenays, B.C.

The writer is endeavouring to make a list of the flowers of British Columbia, both indigenous and introduced, that yield honey, with their proper botanical designations and times of flowering. It is somewhat difficult to do this without being able to make an extended tour of the province at the different seasons for the purpose. Subjoined is a list of the native flora of the East and West Kootenays from which honey is obtained by the bees, as far as at present obtained, and the writer would be glad to receive any information from bee-keepers or others interested, so as to add to it and make it complete for the whole of the province. In course of time it may be possible to tabulate the different species that appear to specially flourish and are only to be found in certain districts, as sometimes this is very marked. It would then be easier to distinguish the different honeys produced in these districts, and to classify or grade them, and would also be a guide as to the best locations for keeping bees. Take the Snowberry, for instance, whose insignificant-looking little flowers the bees are particularly partial to. In this district of West Kootenay, where it is abundant, the writer has only seen but the one species (Symphoricarpos racemosus). In East Kootenay the one called the Wolfberry (Symphoricarpos occidentalis) is apparently the only kind that grows there. The Dogbane, locally called Milkweed, that is common here is the Spreading Dogbane (Apocynum androsaemifolium). Possibly in other parts of the province the Indian Hemp (Apocynum cannabinum) and its variety A. hypericifolium may be found in abundance. The Maples, which abound and yield quantities of early honey in some of the coast districts, are scarce here, and so are not included in the list for the Kootenays. The Buckthorn (Sacred Bark or Cascara) (Rhamnus Purshiana) I have not yet observed in this section, although it is said to be common nearer the coast. It is a small tree, 15 to 20 feet high, preferring a moist situation. The fluid extract, Cascara sagrada, used as an aperient medicine, is made from its bark. At the end of last August the writer noticed Rhamnus Frangula (introduced from Europe) growing at the Dominion Experimental Station, Invermere. At that time quantities of its black berrylike drupes were ripe, but it was still flowering and crowded with bees. There are flowers in this region that are supposed to yield honey, but which it is not at all certain that the bees visit at all. One of these is the Buckbrush or Snowbrush (Ceanothus, order Rhamnaceae), of which there are two species, the deciduous and the evergreen, both of which bloom at about the same period. The flowers of both kinds are alike and have a somewhat strong aroma. In East Kootenay the writer has noticed the Oleaster, commonly called Wolf Willow or Silverberry (Elaeagnus argentea), in bloom in the month of May, but has never been able to find any bees on its pretty pale yellow flowers, which are very fragrant. It is said to yield honey on the prairies. As a rule, all plants that secrete nectar have sweet-scented flowers. Then there are the False Heathers, three species (Phyllodoce glandufloris, white; P. empetriformis, red; and P. intermedius, pink), that grow in the mountains at a high altitude. As far as I am aware, it has never yet been ascertained whether they secrete nectar or not. If it could be found out for certain that they do it might possibly be worth while to move the hives up the mountains in August sufficiently near for the bees to reach these flowers, as is done in the heather districts in Scotland and the North of England. The Blueberry and the Huckleberry yield honey in some localities. The former grows very abundantly at Nakusp on the Upper Arrow Lakes.

INDIGENOUS HONEY-YIELDING FLOWERS, KOOTENAYS, B.C.

Willows.—Salicaeae. (Willow Family.)
Glaucous or Pussy Willow. Salix discolour.
River Bank Willow. Salix longifolia.
(Flower in March and April and probably yield more pollen than honey.)

Dandelion.—Compositae. (Composite Family.)
Taraxicum officinale.
(Flowers in April and May.)

Bearberry.—(Kinnikinnik) Ericaceae. (Heath Family.)
Arctostaphylos Uva-ursi.

Blueberry.—Ericaceae. (Heath Family.)
Vaccinium ovalifolium.

Huckleberry.—Ericaceae. (Heath Family.)
Gaylussacia resinosa.

Choke Cherry.—Rosaceae. (Rose Family.)
Prunus demissa.

Bird, or Pin Cherry.—Rosaceae. (Rose Family.)
Prunus pennsylvanica.
(All flower in May.)

Barberry.—(Oregon grape) Berberidaceae. Barberry Family.)
Berberis aquifolium.

Wild Red Raspberry.—Rosaceae. (Rose Family.)
Rubus strigosus.
Wild Black Raspberry.—Roseaceae. (Rose Family.)
Rubus occidentalis.
(All flower in June.)
Dogbane.—(Milkweed) Apocynaceae. (Dogbane Family.)
Apocynum androsaemifolium. (Spreading Dogbane.)
Snowberry.—Caprifoliaceae. (Honeysuckle Family.)
Symphoricarpos racemosus.
Wolfberry.—Caprifoliaceae. (Honeysuckle Family.)
Symphoricarpos occidentalis.
Canada Thistle.—Compositae. (Composite Family.)
Cirsium arvense.
(All flower in June and July.)
Great Willow Herb, or Fireweed.—Onagraceae. (Evening Primrose Family.)
Epilobium angustifolium.
Golden Rod.—Compositae. (Composite Family.)
Solidago canadense, etc.
(Both flower in July and August.)

MIDDLESEX BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

A general meeting of the Middlesex Bee-keepers' Association was held at 23, Bedford Street, Strand.

Members present: Misses D. Burden, D. S. Scott, M. S. Scott, C. Johnson, Mrs. Babbage, Messrs. W. W. Babbage, T. W. Bale, T. Bevan, T. Card, P. A. Cragg, J. Farrant, A. F. Harwood, J. B. Lamb, W. Herrod-Hempsall, J. Smallwood. Mr. J. B. Lamb presided.

The balance-sheets 1913-14-15, as passed by the Committee, were read and adopted.

It was proposed by Mr. A. Harwood, seconded by Mr. Bevan, and resolved: That the Hon. A. Mills be asked to be president. The vice-presidents were re-elected, and other names were suggested to be added to the list, to whom the Secretary was instructed to write.

Mr. J. B. Lamb was appointed treasurer, and Mr. W. Herrod-Hempsall was appointed hon. secretary.

The Secretary was instructed to thank Messrs. Tansley, Will & Co. for acting as auditors, and to request them to undertake the same office this year.

Mr. P. A. Cragg was appointed representative of the Association on the Council of the British Bee-keepers' Association, and Mr. J. Smallwood was appointed expert.

The following members were appointed a Committee: Miss D. Scott, Messrs. A. W. Babbage, T. Bale, T. Bevan, J. Card, P. A. Cragg, J. Farrant, A. W. Harwood, J. Smallwood.

Mr. W. Herrod-Hempsall then gave a very interesting lecture on "The Prospects of Bee-keeping," after which a discussion took place on the restocking scheme recently submitted to the Council of the British Bee-keepers' Association. It was considered that in Middlesex it was difficult to find a central location suitable for the purpose, but the secretary and expert were instructed to make inquiries for an available place.

KENT BEE-KEEPERS' ASSOCIATION.

INSTRUCTIVE LECTURE AT ROCHESTER GUILDHALL.

A large and interested audience assembled at the Rochester Guildhall on Saturday evening, April 21, when a most instructive lantern lecture, on the subject "Bee-keeping for Profit," was given under the auspices of the Kent Bee-keepers' Association. Mr. W. Herrod-Hempsall, F.E.S. (secretary and lecturer to the British Bee-keepers' Association) was the lecturer, and he dealt very clearly and lucidly with the subject.

Mr. H. M. Cobb was in the chair, and said how glad he was to see such an excellent attendance that evening. At present there was a membership of 370 in the Association, and he was sure all present were interested in the subject. The annual value of imported honey to this country amounted to something like £200,000, and bees, whose importance was perhaps not generally realised, were like Englishmen should be, defending their hives and making honey.

Mr. Herrod-Hempsall said that they were in one of the finest fruit-growing counties in Great Britain. He hoped that he would be able to show them that the bees not only produced honey, but that man was indebted to them for large supplies of food. Bee-keeping was one of the few occupations that could be followed by both sexes; in fact, women made more success than the men. He was not going to teach them the art of bee-keeping that evening, but what he did want was to arouse in them an interest in the subject, and to create a "bee fever." The work had one advantage, in that it was truly a poor man's occupation, for anyone could engage in it, providing that a few square yards of ground, on which to stand the hive, were available. In some of the large towns, such as Blackburn and Preston, and in the London suburbs, they were kept in some cases

even at the bedroom window. Speaking of the Association itself, the lecturer said that it was one of the best self-helping societies that it was possible to find. All who followed that occupation were more than willing to "give out" their information for the benefit of others. Some years ago the Society had a membership of about twelve or fifteen, now that had increased enormously, to over 350. Bee-keeping was needed for the benefit of the community at large, and he hoped that if any should take it up, they would assist each other, so that all might be successful. (Hear, hear.) There were over two hundred different kinds of bees in this country, but the most useful was the hive bee, in that it was the only one that lay by the surplus that the bee-keepers desired, and the lecturer confined his remarks during the evening to that class of bee. Bee-keeping could not be carried out on a large scale in this country, but it was possible for a large number to do so on a small scale. Mr. Herrod-Hempsall, assisted by splendid lantern slides, gave some instructive thoughts on the the three classes of hive bees, the queen, worker, and drone, and in connection with the former, said that she was capable, when in her prime, of laying from two to three thousand eggs per day. The life history of the bee was briefly traced, and helpful advice as to the rearing of the bees was given. In emphasising the value of bee-keeping, the lecturer remarked that the food value of one pound of honey has been said by scientists to be equal to twenty chicken's eggs. When commencing, and, in fact, always, the simpler the appliances used the better the success, and if possible one should make all apparatus. That occupation was one thing in which the British people are ahead of all others, and it would be necessary to maintain that supremacy. The value of bees, in the matter of food production, was little realised by the majority of people. Many kinds of fruit depend a great deal upon the visit of the bees, and to the ordinary farmer they were practically invaluable, and the lecturer urged those who were interested to co-operate with others, and thus help each other. A complete beginner's outfit could be obtained for two or three guineas. A large number of the lantern slides were illustrations as to the building and the use of the hive, and some really excellent information and advice was given to all. Many questions were put forth by the members of the audience at the close of the lecture, and these were capably answered by the lecturer.

Mr. G. Bryden represents the Rochester Branch of the Association, and anyone in the locality needing advice or assistance should get in touch with him at Hamilton House, Star Hill, Rochester.

(Communicated.)

A WONDERFUL CITY.

THE LIFE STORY OF THE HONEY BEE.

By Oliver G. Pike, F.Z.S., F.R.P.S.

(Continued from p. 131.)

If this second swarm should return to Nature, the bees seldom live. The community is not strong enough; there are not enough Workers to bear the strain of hard work of building the City, and providing it with stores before the young bees can be hatched to make good the losses. The virgin Queen cannot begin laying at once like her mother. They may choose a hollow cavity in a tree or wall; cell building will go on as usual, honey will be brought in, but when the young Queen which will perhaps remain in the cluster for about a week, goes out to meet a Drone, then the bees, anxious for their Queen, will all follow. I have seen such a cast following their Queen when she has gone out to meet the Drone. The Queen, confused and surrounded with her more humble and anxious sisters, hardly knows which way to turn, and often comes back to the place chosen for the new City. If able to outstrip her companions, then she will probably have a successful meeting with the Drone, return to the hive, and within a week will begin to deposit eggs in the cells.

The mother City at this stage is weak, the inhabitants are hardly in a condition to do much work, and unless the bee-keeper steps in and helps them they may perish. Some stocks of bees seem to be possessed with swarming fever, if such an expression may be used, and they will send out a third and even a fourth cast. These are so small and weak that they cannot survive; if they linger for a time the cold of winter will inevitably destroy them. They go out to such an uncertain destiny with all things against them in our changeable climate, so that unless the weather is exceptionally favourable many such swarms are lost. And the hive from which all these swarms issued will also be left so weak that they, too, will perish, and so we see that this remarkable community will sometimes make grave mistakes, errors that mean that the whole City with the exception of the first swarm will dwindle away and die.

Should the first course be taken by this little people, however, that is, should the second Queen remain in the hive, and destroy the other young Queens as described, it will turn out differently. She will in a few days meet the Drone, and if

this is successful, will commence laying so that the stock will soon be at its full strength again, and in a condition to brave the cold and changeable weather of winter.

CHAPTER X.

SOME STRANGE DOINGS IN AND OUTSIDE THE CITY.

During my several years' experience amongst my little winged friends, the bees, I have known the weather to be so inclement and variable at the usual time for swarming that the bees have been unable to venture outside the hive.

The Queen cells have been built and contain the princesses, and then at the appointed time for swarming the weather has suddenly changed—a very usual thing in our good old England—and the Queen has not been able to leave the hive with her swarm. Day after day this adverse weather has continued, and the result to the hive has promised to become disastrous. The time comes for the young Queens to leave their cells, and if all should come out with the old Queen still in the hive a great state of chaos would result. But this far-seeing little nation will not allow any such thing to occur. Should the weather still keep cold or wet, then the cradles of wax are torn open, and the young Queens slaughtered by the Workers. But before they do this, they seem to have a lingering hope, that which we mortals sometimes have, that the weather will change in their favour. When the young Queens are ready to leave their cells, and the first begins to bite her way out, then some of the cell-builders hurry on the scene, and with wax with which they are provided, or with materials with which they scrape from the cell itself, they quickly seal up the hole made by the imprisoned Queen. Thus we see a comical, but none the less remarkable, incident; the Queen inside is trying to escape, and the Workers, knowing the mad tumult that would ensue if her exit were allowed, take care effectively to prevent it, so that as quickly as the imprisoned creature bites away the wax, just as rapidly do they seal up the breach.

At last perhaps a favourable day arrives, and after hours and hours of cold, wet, windy weather the rising sun sends his welcome reviving beams into the hive, and throws little patches of light up on to the combs. It is a sign of hope and of pleasure to the bees. They hurry out into the fresh and still cool morning air, before the dew has dried on the grasses; a state of excitement pervades the City. Their mother will in a short time lead out the swarm; their chief or greatest hope is realised at last; and before the full heat of the day has arrived, the swarm goes out into the sunshine, and the young Queens in their cells no longer have any guards outside. In a moment or two these bite their way out, and six or more are running about the combs.

Now, indeed, there is chaos. Six Queens all eager to fight, each giving out its warcry, for a Queen bee has the power to utter at such times a shrill, piping squeak. Two Queens meet; they fight until one is vanquished; two more meet, and they do the same, until only one is left, and she having survived the battle is destined to be the mother of this colony.

The Honey-bee will sometimes depart from all its usual customs and do some strange things. Two Queens are in the ordinary course of events never allowed to be in the hive at the same time; but on one occasion, when examining a hive, I saw a Queen on a comb, and she was undoubtedly the chief of the hive. But on the outside comb of all I also found another Queen, and on examination this was seen to be the old one. She was worn and crippled with age; her wings refused to carry her. She appeared to be past work, and yet she had made her way to this distant corner, and a few bees cared for, and still had a lingering respect for, their aged mother. I removed her from the comb, and found that she could walk only with difficulty. Nevertheless she had been a magnificent specimen of her kind, and one of the best Queens I ever possessed. There seemed to me a touch of sadness in this little incident. Here in a remote dark corner of the city, the mother which had produced about a quarter of a million Workers in her time had been smuggled and cared for by a few of her faithful attendants. She was altogether past work, and, to end what to her must have been a miserable life, I killed her; for at any moment the young mother of the City might have found her, and have put an end to such a helpless rival's existence.

Are bees able to reason? Is there in that little head of theirs, which contains the most perfect brain in Nature next to that of man, any power of intellect? Do they always work like a machine, or can they adapt themselves to any circumstances? Some say the bee works blindly; they call it "instinct," a grand term all of us are pleased to bestow on the lower creatures when their manners and customs baffle our inquiries. "It's only their instinct" is an expression I have heard over and over again when applied to animals, and it is a term I hate to hear. We are told that bees never have progressed. Their combs ten thousand years ago were as perfect as they are to-day. They gathered honey, pollen, propolis, and

water then. Others ask us to show them a single instance of a bee showing signs of progress, by using clay or mortar for wax or propolis. This is a little more than one would expect of such workers, for the simple reason that there are no other substances in this world that would be better suited for their work than the materials they employ. But the Italian bee, when it has a large piece to cement over with propolis or glue, does collect grains of sand and other minute materials to mix with the resinous substance. Is this progress, or have they always done this? Give the bees artificial pollen in the early spring before the flowers bloom, in the form of pea-flour, and they will soon take to this, and carry in great quantities. Is this progress? Place on or near a hive a sticky substance, be it paint, glue, or other material; they will take this into the City and use it instead of propolis. Is this progress, or merely blind instinct? Place some honey in a hive, and between it and the bees lay a piece of thick carpet, and they will bite their way through to the sweet stores.

(To be continued.)

OLD NOTIONS ABOUT BEES.

"The bee (saith the Wiseman) is the least of birds, but shee is of much vertue and shee provideth both honey for pleasure and waxe for thrift. And not only doe they carefully preserve their owne petty state, but by their labours doe much sway in all human states and policies also, as is said in that verse:—

The calf, the goose, the bee,
The world is ruled by these three.

Meaning that waxe, pennes, and parchments sway all men's states.

"Bees have three properties of the best kind of subjects; they stick close to their king, they are very industrious for their livelihood, expelling all idle drones, they will not sting any but such as provoke them, and then they are most fierce."

From "A Display of Heraldrie," by Joh. Gwillim, 1611.

"One very strange habit has been recorded, and confirmed by subsequent observations. A small female is set apart for the duty of awakening the nest every morning with her piercing note, and has been called the 'trumpeter.' It seems that only those nests which are large and have plenty of spare hands can afford this luxury."

The latter extract, which is taken from Lyddeker's "Natural History," Vol. 6, p. 46, under "Hive Bees," has in substance been quoted in at least one modern natural history book. Can any JOURNAL readers add their corroboration? The transcriber has never come across this idea of the hive appointing a bugler to sound reveillé in any work on modern bee-keeping—perhaps the piping of the queen prior to swarming was ascribed mistakenly to a worker performing this picturesque duty. We know that in the breeding season the work of the queen and her children never ceases day nor night within the hive, while work in the fields is regulated by daylight and temperature. How, then, do the bees need a "knocker up"?—RED CROSS.

BEE LORE.

When daisies fill the grass like snow,
And blossoms white the trees,
And to the bee-master I go
To buy a skep of bees,
I do not pay in brown money,
Or silver new or old;
Nay, that my bees may have good luck,
I cross his hand with gold.

And now my bees they hurry forth
Till eve the dusk doth bring,
And east and west and south and north
They go a-gathering.
The pollen and the honey good
They gather in fourfold,
And all I paid the bee-master
They give me back in gold.

E. S. F.

PRESS CUTTING.

ONTARIO BEE-KEEPERS ASSOCIATION.

Over one hundred and fifty members of the Ontario Bee-Keeper's Association were present at a recent conference in Toronto. Mr. F. W. L. Sladen, Dominion Agriculturist at Ottawa, gave a full account of the work of the bee division of the experimental farms of the Dominion at fifteen stations on which work with bees is being carried on. Wintering of bees and the control of swarming were mentioned by Mr. Sladen as the causes of most trouble in bee-keeping in Canada, and much of his work has been devoted to endeavours to find means of overcoming them. The plants best suited for honey production have also been investigated by Mr. Sladen, and his account of their distribution throughout the country was most interesting. "The Production of Beeswax and some of its Uses" was another subject dealt with; and was followed by a discussion as to comparative merits of the different methods employed in extracting wax from the comb, many of the members present showing an interest in this side-line of bee-keeping, which is, as a rule, much neglected.—From the *Empire Review*.

Notices to Correspondents

"STOCKTONIAN" (Stockton).—*Working Two Queens in One Hive.*—You probably refer to the "Wells System," which was in vogue about fifteen years ago, but is now practically discarded. A long hive holding eighteen to twenty combs is needed. The hive is divided into two parts by means of a thin wooden division board perforated with a number of ½in. holes about ½in. apart. Two queens are worked, one on either side of the division board; there are, in fact, two colonies of bees in one hive separated by the perforated division board. All the bees have the same scent, and will all work amicably together in a super covering the whole of the hive. Of course, a queen excluder *must* be used over the brood frames, and care taken that the two queens do not get together.

"VERACITY" (Ireland).—*Clipping the Queen's Wings.*—It will not impair her efficiency. Great care must be taken not to crush her when clipping. (2) We prefer to lay the excluder flat on the top bars of the frames. You may use a frame, but with the wire excluder the bees will probably build a lot of brace comb through it, between the top bars of brood frames and bottom of super. (3) If the foundation is dull and brittle place it out in the sun for a short time, or pass it slowly in front of the fire, it will then be as bright as when new. (4) To clean the pollen out of the combs, soak them in water for several days, or until the pollen has become quite soft. Then wash it out with a garden syringe.

"A. B. C." (Sheffield).—*Making an Artificial Swarm.*—For your purpose it will be better to do this when queen cells are started. Place a skep, or a swarm box, on the ground by the side of the hive. If a skep is used spread a piece of cheese cloth on the ground first, and stand the skep on this, prop one edge up with half a brick. Open the hive, secure the queen, and place her in a cage or a match box, then brush or shake as many bees as required off the combs, but do not shake the comb on which is the queen cell containing the future queen. If the bees are shaken down close to the opening to the skep or box they will run in. When you have obtained sufficient run the queen in among them. The work should be done in the evening. If the bees are confined during the next day and hived in the evening very few will return to the old stand. Keep them in a cool, dark place, giving plenty of ventilation. If a skep is used turn it upside down with the cheese-cloth uppermost.

"EBOR" (Dorset).—*Drinking Fountain.*—There are many methods of fixing one up. Put a quantity of bits of brick or stones in a vessel, and fill up with water, but do not cover the stones. Some use tea leaves in the same way or put a few handfuls of cork dust on the top of the water. A very good plan is to fix up a barrel with a stopcock, fill with water, and allow it to just drip down a board or some stones.

"SUPER" (Sussex).—(1) Not more than three. (2) As soon as you find bees on the outer combs at both sides of the hive. (3) Try The Mono Service Vessels, Ltd., Park Royal, London, N.W.

E. JACQUES (Lichfield).—(1) Yes. (2) "Queen Rearing in England," 1s. 6d., postage 1½d. (3) Yes.

"NOVICE" (Tonbridge).—(1) Two teaspoonfuls. (2) Yes. If the hive was crowded they would probbably swarm. (3) No. Place them in the natural position, and be careful not to crush them. (4) You may put them in as soon as they are sealed over.

F. DAVIES (Stroud).—We are sorry we do not know of any except those advertised at times in our columns.

Suspected Disease.

"BACKFAULDS OF MILTON" (Auchtertool).—We fail to find any disease in the bees sent.

"J. E. C." (Preston).—The trouble is "Isle of Wight" disease. It is better to put the Bacterol in syrup and feed the bees with it. Mr. J. Wildman, Holly Cottage, Forton, Garstang, is the secretary of the Lancs. B.K.A.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1*d. per work as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3*s. per* ½*in., or* 5*s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

TO CLEAR.—Twelve dozen very clean drawn-out Shallow Combs, 1s. each; Racks, 1s. 6d. extra; very clean drawn-out Sections, twelve racks, complete with twenty-one sections and ten dividers, 6s. each; fifty Section Racks, empty, 1s. 6d. each.—Address, "APPLIANCES," BRITISH BEE JOURNAL Office, 23, Bedford-street, W.C. 2.

WANTED, Stock of Dutch or Hybrid Bees, must be guaranteed free from disease.—F. HAWKES, The Gardens, Garston Manor, near Watford. f 26

WANTED, several good Swarms of healthy English Bees.—Price to J. JEAL, Oxted, Surrey. f 4

THREE Section Racks, one Shallow-frame Rack, all fitted new frames and foundation; three ordinary and three patent Excluders, sections in flat; Section Clearer, Section Block, Smoker, and other articles; 30s. the lot to clear.—PARKDALE, Churchfields, Woodford, E. 18. f 17

MONSTER Aylesbury Ducks' Eggs, free range, 4s. 6d. dozen, carriage paid.—A. E. WARREN, Simpson, Bletchley. f 18

WANTED, Stock of healthy Bees; also Swarm.—CROSLAND, Atherstone House, Wilford-lane, West Bridgford, Nottingham. f 19

FOR IMMEDIATE SALE.—Six W.B.C. Hives, complete, perfect; 8lbs. Wax; six 4 Section Hives, new; eight Excluder, £3, or separate.—RICE, Sudbury, Suffolk. f 20

£5 OFFERED for immediate delivery of two teeming healthy Stocks of Italian or Yellow Hybrid Bees (no Dutch blood), on ten or more combs each, with eight or nine combs brood each.—VINCENT, 132, Croydon-road Anerley, S.E. f 21

WANTED, twenty Swarms healthy Bees, any sort; will pay 3s. lb. May swarms; also first week of June.—BLACKMORE, Halthaies, Bradninch. f 22

WANTED, Geared Extractor and other Bee Appliances.—GRAY, Benhall, Saxmundham, Suffolk. f 23

WANTED, Geared Extractor, two Uncapping Knives, and Wax Extractor.—C. MASON, Eastfield House, Haxby, York. f 24

SELLING HONEY UNDER A FALSE TRADE LABEL.

(*Continued from page* 142.)

"Q.: 'Do you consider yourself an expert on honey? Do you know the customs of the trade and how honey is prepared for the market after it is taken from the hives?'

"R.: 'I have a very particular taste in heather honey, and what honey I sell I put before my customers in the most attractive way possible, and I am acquainted with all the customs of the trade.'

"Q.: 'How much heather honey would you say should be in a sample of heather honey before you would label it as such?'

"R.: 'All the honey if possible, but if I had a sample containing 90 per cent. heather and 10 per cent. clover I would consider that a splendid heather honey, perhaps more pleasant to eat than absolutely pure heather.'

"Q.: What would you call a sample of honey, the heather over 50 per cent. and the other honey less?'

"R.: 'Heather blend, or heather mixture, as the case might be, according to the quantity of heather honey in the sample.'

"Q.: 'You bought a bottle of heather honey in February, 1916, from St. George's Co-operative Society, Glasgow, labelled "Pure Heather Honey? What did you do with it?'

"R.: 'I tasted it, and forwarded it to the Editors of the BRITISH BEE JOURNAL, and asked them to deal with it, or advise me.'

"Q.: 'What did they advise you to do?'

"R.: 'They sent the honey to the Board of Agriculture in England, but also sent a sample to Mr. Hayes for examination and report.'

"Q.: 'What did he report?'

"R.: 'Mr. Hayes said in his opinion it was Mesquite honey, with 10 per cent. heather added.'

"That practically closed the examination. A statement will be drawn up and sent to the Fiscal in Glasgow, and he may force the Board of Agriculture in Scotland to take it up. Can you suggest anything further to be done in order to force their hands? Before I sent you the honey in March last the report of Messrs. Cairns, Ltd., was in the BEE JOURNAL. I took a copy to the manager of the local society, and told him the Wholesale would find themselves in the same hole if they did not stop selling the stuff they were selling, as heather honey. He read the report asked me to delay making a report until he could see the manager of that department. He saw him, showed him the prosecution report, and told him that I considered he was doing the same thing. He said I could do what I liked. He would not stop selling the honey, as it was pure heather. I am anxious now to prove to him he cannot do just what he likes."

We heard nothing further of the matter until we received a letter from Mr. Armstrong dated March 18, 1917, in which he said: "I have just learned that the S.C.W.S. has been convicted and fined for selling as heather honey honey that was not heather. The trial took place about three weeks ago. I was never informed of it by the Board of Agriculture, but it was at their instance the prosecution took place. I was on the West Coast most of last week, and it was quite by accident I learned of it there.

We have given a somewhat lengthy report of this case, but we know many of our readers, especially in the North of the country, are members of the "Co-Op," as it is usually termed—a society which we believe professes to supply its members with genuine articles, the best and purest, at the cheapest possible rate consistent with decent conditions for the workers. The stuff they were selling as heather honey they charged 2s. per one-pound jar.

One or two points we may draw attention to. The magistrate said: "The Society had taken less care in the matter than they might have done." We would ask: Could they have taken less care? They were warned over a year before the prosecution took place. Before Mr. Armstrong sent the sample of honey to us he called on the manager of the local store and showed him the report of the prosecution and conviction of a Paisley firm, and told him the S.C.W.S. were doing the same thing. Mr. Armstrong also warned the manager if it was not stopped he would try his best to make them stop it, and to give time for the head of the department to be warned, he waited a fortnight before doing anything further. The manager obtained a copy of the *B.B.J.* containing the report. The only result was that Mr. Armstrong was told to mind his own business—they knew theirs; and during the whole of the time until their conviction they were selling the stuff. So far as we can see from the reports of the case, the prosecution made no men-

tion of the fact that foreign honey, not of the best quality either, was being palmed off as the best heather honey, but said the honey contained too much "sucrose," and it was explained that "sucrose was a sugar prepared, by boiling, from cane and beet," which, we take it, means adulteration, therefore the Society could have been prosecuted under two counts—selling under a false trade label, and adulteration.

Mr. Armstrong informs us that about ten years ago the Food and Drugs Inspector at Grangemouth tried to get a prosecution under the Food and Drugs Act. On hearing of this prosecution, he wrote to Mr. Armstrong as follows:—

"I was very pleased to receive details of your successful fight against the selling of foreign honey as heather. I quite recollect the time when I procured a sample in Grangemouth for analysis, but could not take action because the goods sold was honey. It seems, therefore, that proceedings under the Merchandise Marks Act was the most competent. What strikes me as being unsatisfactory is the difficulty you had in getting the Government and other officials to support you in your endeavours to supply an article of the kind and nature demanded. You therefore deserve the heartiest congratulations of the public and all your bee-keeper friends on the successful issue of your efforts."

We—and we are sure our readers also—heartily congratulate and thank Mr. Armstrong for the trouble he has taken. There is far too much foreign honey being sold as home produce, a practice which might be considerably checked, if not stopped altogether, if all bee-keepers would bring any contravention of the Merchandise Marks Act to the notice of the authorities, and we shall be pleased to give any help we can. If any stores are selling the same kind of honey as "Home" they are probably laying themselves open to prosecution. Perhaps some of our readers will look into the matter.

BEES SCARCE.

RABBITS' TAILS AS A SUBSTITUTE.

Mr. E. A. Bunyard, speaking at the Royal Horticultural Society's spring show yesterday, said that it seemed possible that we should get a large crop of fruit this year. It was known that bees were now scarce, and it would better the crops if fruit growers did their own fertilising by transferring the pollen with a rabbit's tail or a powder puff. It only necessitated ten minutes or a quarter of an hour among the blossoms of each tree.—From the *Pall Mall Gazette*.

SEASONABLE HINTS.

Now that we are having a spell of warm weather numbers of flowers have made their somewhat belated appearance. Cherry and pear trees are white with bloom. Gooseberries and currants have also flowered freely, and the bees are busy on the numerous dandelions and other wild flowers. Stimulative feeding should be stopped, as the abundance of nectar and pollen to be obtained from the flowers will cause egg-laying and brood-rearing to go forward with a vim. An inspection of the brood chamber will reveal whole combs full of eggs, showing that the queen has been laying to her utmost capacity. One word of warning. It is not at all unlikely we may still have a spell of cold or wet weather; it may be for a few days or a couple of weeks. In that case the huge number of larvæ will quickly consume the little surplus honey there may be in the hive, and the colony be reduced to starvation point, and it will be necessary to again give a little food. If the shortage of food becomes acute the unsealed larvæ will be cast out of the hive. These cast out larvæ are a sure indication of food shortage.

Entrances may now be made wider; very strong stocks may be given full width entrances, but watch should be kept for any signs of robbing, and if this occurs the entrance of the stock attacked should be closed to one bee space, if necessary.

Swarms will no doubt soon be plentiful. If one has been procured from a distance, place the box just as it arrives in a cool, dark place till evening, taking care that the bees have plenty of ventilation. Hive them into the new home about seven o'clock in the evening. Do not attempt it in the daytime, or instead of running into the hive the bees will probably fly up and either decamp altogether or cluster in the most awkward position possible. A swarm should be fed for a few days after hiving, or, if the weather is bad, until it again becomes favourable for the bees to fly and gather nectar. Where it is desired to check swarming, the stocks should be "supered" before the bees become overcrowded. Once that has come to pass, and queen cells are started it is very difficult, if not impossible, to stop the swarming. Put on the super as soon as the bees are occupying all the ten combs. This may be ascertained by turning back the quilt at each side of the hive. When the spaces between the outside combs and the hive sides are both found to be full of bees the stock may be supered. Weaker colonies that have been closed up, on to six or eight combs, should

have the other combs added as fast as the bees will occupy them. If increase of stocks is desired artificial swarming may be practised.

A DORSET YARN.

This week has been a good one for our Dorset bees. Sections are being filled very fast, the long lines of pears are covered with bees, apples are opening their lovely blossoms, but I notice the bees will push back the petals and enter the flowers before expansion. Turnips are in flower; there are stores of honey to be gathered. Numbers of the bees fly off high up in the direction of woods; there must be some trees yielding nectar in abundance just now. It may be the laurel, which is very plentiful in Merley Woods. All hives (with one exception) have a rack of sections, some of them sealed over. The honey is pale in colour, of great density. When sections are cut through very little honey runs out of the cells. Those stocks that are working best in the sections go through the preliminaries of swarming, a kind of invitation for the queen to come out and colonise the whole world with bees. This afternoon (May 12) between three and four o'clock it was one continual hum of flying round and running in and out of the hives. The swarming fever is with them, though there is plenty of room to store surplus honey.

Last Monday at Highcliffe, on the borders of the New Forest, I was privileged to yarn on the pollination of fruits and flowers by bees. The audience were English in origin, the chairman Scotch, the secretary Welsh, the lecturer Irish. The same old story everywhere: the bees have died of disease; some of the bee-keepers are eager to commence again, but prices are prohibitive. One of them was asked to pay 60s. for a stock; he thought it was too much to risk just for one season.

This is a fine district for bees. In Major Tinker's beautiful grounds at Chewton Glen, flowers were everywhere, wild cherries and poplars, beech, birch and lime. His very able gardener, Mr. Weaver, is keen on buying again. He has cleaned up his hives and boiled all the frames in soda water, no germ of disease to be left for the new race of bees. He will have the first swarm from the Violet Farm.

It was in this village that the Kaiser stayed when last in this country, at Highcliffe Castle. It is on the sea front, shut in with woods, a very beautiful place. A great deal of the place is split up for building a pleasure resort for the wealthy and leisured classes. The stream that winds through the woods to the sea is one of the haunts of the tourist, because of its entrancing beauty. The nature lover will find this a very choice glen to visit.—J. J. KETTLE.

THE FIRST SPRING DAY.

The eleven weather-worn skeps stood in a secluded corner of the old farmyard. Never was an apiary seen in such a strange place, for all around were the signs of war. Immediately underneath them was an elaborate dug-out, which only a short time ago was in use. Through all the past months of war these eleven old skeps had escaped, and the bees in each had come successfully through the strenuous winter, which, like the war itself, had raged around them. To-day—the glorious first of May—the weather has changed, and a summer sun is beating down upon them, and this wonderful little people are busy, for the spring has come upon them suddenly, and their homes need seeing to. As I watched, some were carrying out refuse which had accumulated in the winter months, others were carrying in big loads of pollen. The water-carriers, too, were busy, and each and every member of the eleven small cities were going through their allotted tasks. Not far away the great guns of our successful Army were making the air vibrate, and the very stands on which the skeps stood trembled, yet not the slightest notice did the small inhabitants take as they hurried to or from their homes. High up in the blue above a lark was singing his song of love, and those notes seemed so utterly out of place, mingled as they were with the roar of the guns and the drone of the aeroplanes passing over. Yet the small bird—the very emblem of home and happiness—sang, for this awful game of men killing men was nothing to him. Down by the skeps a small evergreen bush contained a nest, and to-day it has one beautiful blue egg in it, and the blue on the hedge-sparrows egg vies in colour with the glory of the blue above in which the lark is singing. That great awakening, the birth of new cities, is commencing in those eleven straw skeps and it is a real pleasure to a keen bee-keeper, who through this wretched war is an exile from home, to look upon them, as they dart from the skeps to the fields, and back again, making the air glad with the music of their wings. There never was a greater contrast, this glad-some harmony of this first spring day and the awful discord of war. As I stand by the skeps, and look out over the fields beyond, made famous for all time by the glorious deeds of our brave men.

that song in the air above sends my thoughts back to the fields and lanes in my beloved England, where in the corner of an orchard my own bees are singing this same sweet song.

OLIVER G. PIKE.

POLLINATING FRUIT TREES.

(*Continued from page* 139.)

Another experiment has shown that the stigma, under the best conditions, begins to deteriorate to a marked extent, in regard to its receptiveness of pollen, the eighth day after the flower has opened and with climatic conditions so adverse as is usual with us in the spring, during the period the trees are in flower, its receptiveness is probably of much shorter duration.

With such existing conditions as these, the value of having hive bees in the vicinity, so that they can work freely on the flowers during the short bright spells which often occur during weather which prevents them leaving the hive, cannot be easily over-estimated. The value of the wild bees and other pollinating insects, should not be over-looked, as they work more freely than the hive bees during adverse weather.

THE EFFECT OF RAIN.

The effect of rain upon fertilisation is not, to my mind, so deleterious as is generally thought, for experiment has shown that the application of water on the stigmatic surface, two hours after pollination, has no effect whatever in preventing fertilisation taking place, and it is probable that it would not at a much shorter period if weather conditions were favourable. The applications of water were much more severe than would occur in a practical way from a shower of rain, and, considering the small size of the surface of the stigma, I think that the water that would come in contact with and remain upon it is hardly worth considering. A period of rain, however, would doubtless destroy much pollen, and prevent pollination taking place.

The phenomenon of self-sterility presents but half the problem of the pollination of fruit. There is yet the question of satisfactory pollenisers, and this is of most importance. Taking the extreme for an example: several cases have been found where distinct varieties are of no use whatever as pollenisers for some other varieties. After extensive experiments with Coe's Golden Drop, Jefferson and Coe's Violet, there seems but little doubt that, however these three varieties of plums are intercrossed, no fruit will set. Coe's Violet is supposed to have originated as a bud sport from Coe's Golden Drop; if this is correct an explanation is presented, as it would be really a part of the same individual. In the case of Jefferson, however, no explanation can be offered at present. All these three varieties have been crossed with several other varieties, and have set and developed excellent crops.

Excepting the crossing of distinct species, I am inclined to think that these extreme cases of physiological differences may be rare in plums of the domestica group. With apples, however, I have reason to believe that these cases may be much more frequent, and if it is found to be so, it will be of great importance to the practical man. The variety Bramley's Seedling appears to be of no use whatever as a polleniser for Cox's Orange, and there is some indication that many other varieties may be found to be similar to Bramley's Seedling in this respect. Other cases have been found where varieties have been crossed, and yet no seed has developed; the carpel has simply swollen up, and I have noticed where seedless apples and apples with seed have occurred upon the same tree, that the former have been to a marked extent, inferior in size and in some cases in shape also.

THE PROBLEM OF AFFINITY.

Even with varieties which are potent and do produce seed, there appears still to be a variation in their affinity—the pollen from some varieties appears to set and develop a higher percentage of fruit than pollen from others. Cox's Orange has developed good crops when crossed with Stirling Castle, Beauty of Bath and Duchess Favourite.

Although the pollen of Bramley's Seedling is apparently of no use in effecting the fertilisation of Cox's Orange, the pollen of the latter variety appears to be perfectly potent on Bramley's, and good crops have been obtained. Considering this from a practical view, it is possible that a large block of Cox's Orange might be interplanted with Bramley's only, and if no other varieties were in the vicinity the trees of Cox's Orange would be practically barren, whilst the Bramleys would carry good crops. Extending this view: for all that is known at present, Cox's Orange might even be in the midst of several varieties, and they might all be similar to Bramley's in being of no use as pollenisers, and I am inclined to suggest that in some of the cases where Cox's Orange crops so badly it might be due to such conditions as these prevailing, and also in the cases where they crop so well to having suitable varieties as neighbours.

These variations are in no way due to a deficiency of pollen, nor to the failure of varieties to flower at the same time, which is of course essential.

In cherries also there appears to be slight evidence that some sections, or at least some varieties, may prove to be of little, if any, value as pollenisers for other sections or varieties.

If fruit trees in general can be classified from a physiological point of view, as I am inclined to think they can, it will be of real value to the practical man, as he would then be equipped with a knowledge that would enable him to interplant to the best advantage, and I do not think that this would necessarily involve planting, as pollenisers, varieties which are of little commercial value.

In conclusion, I would say that much is still in a negative stage (and also that possibly some of the cases of inefficiency of varieties as pollenisers, may be found to be more or less coupled with morphological differences), but with further critical investigation there is no doubt that many facts will be discovered which will be of great practical value to the fruitgrower, and probably will throw light on some problems of theoretical importance as well.

JOTTINGS.

Agony Column Cutting.—"Bee must come April, May unlucky, June too long, chauffeur wait letters. Flourishing bee."

The writer was evidently a bee master, who believed in "early numbers," though most of us will not agree that May is "unlucky" or June "too long," especially if following a late spring like this year, and happy are the owners who have flourishing bees under these adverse conditions.

Imported Pollen.—I was very interested in watching a couple of humble bees during a sunny day in March sampling the various bulbous blossoms inviting a visit, and as they appeared to be getting well coated with golden dust it is quite evident that it sometimes pays to be humble, although rather audaciously pilfering, but bees never could resist the shining hours.

Blurts.—Even a blurt makes its mark. Mr. Smallwood has been hunting up. We welcome him as critic, and as he is "categorically fit," the first part of his letter we'll pass over, as he is "indispensable"; and even fighters tire, and like to have a "look."

Our Opportunity.—We are planning all sorts of things to undertake "after the war." Bee-keepers, or probable bee-keepers, never had a finer opportunity of showing their mettle. We are getting plenty of gratuitous advertising. Almost every day one reads some advice in the daily press to purchase bees, to produce "sugar," etc., while just lately a really fine letter was printed from a "lady," containing useful advice both as to cost and requirements of starting. She had a good word for "British Goldens," which shows that only gentle treatment is necessary to get along with these "ill-tempered thieves." We might very well emphasise the article "Influence of Nurse Bees"—page 119—as this is the secret, before we criticise them too severely, also when we make our plans for re-stocking. Both individually and locally, it seems a great pity more has not been done to get "local committees" to work. It is gratifying to find these letters finishing with the address of our "Parent Society," also rather ridiculous to find that although hosts of officials and offices are opened for less important things than food, bee-keeping is still an open-air-wind.

Legislation.—It is rather to be regretted that no step was taken to start a fresh memorial to obtain this much needful reform at the meeting of the British Bee-keepers' Association. Surely this is a work that would entail little or no expense, and could be done easily by volunteers, if given the authority. It is nothing to do with us that the Government think this "contentious." All of the chief opponents have changed their minds on scores of more or less important things several times since then, and we might catch them napping, or, rather, awake; and we shall all be too busy to obtain this "after the war." Anyhow, I'm not anxious to "wait and see" myself; and as I'm just off to Egypt, I shall have to leave my part undone, unless I beg the editors to stick one on for me. Hoping all will have a prosperous year under quickly-improving conditions, with an end to fighting and strife.

A. H. Hamshar.

HONEY RECIPE.

APRICOT JAM.

Required 1lb. dried apricots, 4 pints water, ½oz. leaf gelatine, 2lbs. honey. Soak the apricots in the water for 24 hours, then cut up and boil till tender. Add the honey and boil for ½ hour. Add gelatine, bottle and tie down. This will make about 8lbs. of jam at a cost of about 3s. 8½d., reckoning the honey at 1s. 3d. per lb.

A QUEEN CLIPPING STORY.

It was many years ago, on Easter Day, during one of those radiant spring days that one appreciates the more because one has missed them so long. The bells of the churches had already announced the solemnity of the day, and my wife had said to me: "I hope you will not fail to come to church to-day." I had replied hurriedly: "Yes, yes, certainly." But—how it happened I do not know—when the bells were rung for the third time, I was in the apiary opening a hive of bees.

I had six hives of bees in the remotest rear of my garden, and we had a neighbour whose principle it was never to let anything get lost. So whenever a swarm would settle in his lot, he would run and get a straw skep, hive the swarm without saying a word, and take it away. There is nothing so vexing as to lose a swarm in the spring, but when you know it has been taken on the sly, it is still worse.

I had read in a foreign bee journal that one could avoid the loss of swarms by clipping the wings of the queens, and this was what I was aiming to do on that Sunday. At first everything went well, but when a man has handled a spade or a hoe all the week it is somewhat difficult to hold a queen. They are so frail that one never knows whether one is holding them right or crushing them. Several times it has happened to me to say, in releasing a queen: "There, I killed her!" As I had noticed in that same journal that one could clip the wing of a queen without seizing her, I decided that I would try that method on the second queen. But when the fingers are stiff to handle a queen, they are just as much so for holding scissors. I was holding the frame in one hand and the scissors in the other, following the queen, who was passing from one side of the comb to the other, or hiding under the workers. A clip of the scissors is quickly done, but you must do it properly and not clip a leg or the end of the abdomen with the wing. I believe the man who advised that method is a theorist who has never tried it himself, unless he be a legerdemain performer.

I had been following the queen with my scissors for perhaps five minutes when she reached the top of the comb, and probably becoming convinced that I was after her, she took flight just like a hen that you are trying to catch. It was the first time I had ever seen a queen leave the comb; she passed near my face; I looked up to follow her, but the sun blinded me and she disappeared. I hunted for her for a quarter of an hour on a little tree which was near to me; I investigated one leaf after another uselessly. She was lost.

Was it because of Easter Day? I had no sooner closed the hive when I heard a voice saying, "Serves you right, you pagan! You imagine that you can examine your bees, unpunished, on Easter! Serves you right! A queen lost, a crop lost, 40 lbs. of honey! At 20 cents that makes $8.00! A well-deserved fine, not too much!"

But this made me peevish. "Do you think that I have no right to look at my bees when I feel like it? I'll show you." So I opened the four remaining colonies and clipped the wings of the queens by catching them across the corslet. But the thought, "Serves you right," kept ringing in my ears, in spite of myself. The sun did not seem so bright, and things looked gloomy. I put everything in order and walked towards the house, thinking: "Don't tell anyone about this at dinner, for the 'Serves you right' would be likely to keep alive until next Easter."

I walked into the house. But when I lifted my hat off, I heard a "frr frr," the beating of wings. Oh, my, my queen, my queen, there she was, on my hat!! I caught her, ran to the hive and let her run in. I was in such a hurry that I even forgot to clip her wing. The sun had become radiant again and the day lovely. I was so happy, not so much for my crop returned in perspective, but to be able to answer that voice which said, "Serves you right." It seemed to me that I was entitled to reply: "Ha, not so big a sin after all." But just the same, since that day, I have never opened my hives on Easter.—*Bulletin de la Société Romande.*

BEES WANTED FOR INVALID SOLDIER

The following letter speaks for itself. If any of our readers can supply our correspondent with healthy stocks or swarms of bees will they kindly reply to C. W. E., *B.B.J.* Office, 23, Bedford Street, Strand, W.C.2, and we shall be pleased to forward them on.

"Hearing there was a paragraph in the *Daily Mail* recently about some scheme of re-stocking apiaries when bees had died out from Isle of Wight disease I wrote to editor for particulars.

"He has referred me to you.

"I am a bee-keeper of over 20 years' experience.

"I obtained the 3rd Class Expert Certificate August 13, 1898.

"I enlisted early in September, 1914,

and have been on active service since then till a few weeks ago in Mesopotamia. I am now invalided.

"When I went away I left 28 strong stocks of bees. On returning, I find all dead.

"I am very anxious to get a few stocks to make a fresh start. I was looking forward to the bees helping me to get my living, and was very disappointed to find none alive.

"Isle of Wight disease was in this district two years before I went away, but by helping others around me as their bees developed the disease, I had kept mine free up till time I went away, but during my absence all the bees have died out, and I cannot get any locally.

"Please let me know particulars of the scheme and use your influence to get me even if only one stock to start again with."

HELP FOR BEE-KEEPERS.

Will any bee-keeper in the neighbourhood of Wimbledon Camp needing help with their bees write Major F. Sitwell, D Lines, Wimbledon Camp, who will gladly give any help he can.

THE POLLINATION OF FRUIT TREES.

[9442] Mr. L. G. Corrie's first article on the above subject in your issue of May 3 is most interesting, and makes one anxious to see the continuation, but the list of fertile and sterile apples is rather a short one. The subject is one of considerable importance to all fruit growers, and is not sufficiently known outside of professional circles. Many of the best apples are self-sterile, and will produce very poor apples unless fertilised by bees which have had access to other and more fertile kinds. Self-sterile apple trees unless fertilised by some outside influence, if they bear at all, will only bear small, and often malformed, apples, and would give a poor return for even the cost of planting, let alone the space they take up in the orchard. In planting fruit trees care should be taken, as far as possible, to plant a self-fertile kind next to a self-sterile variety. Extensive experiments have been carried out in America in order to find out under which heading the various well-known apples fall, and the following list will amplify that given by Mr. Corrie.

Apples. Self-Fertile. — Quarrenden, Irish Peach, Lord Grosvenor, Stirling Castle, Lord Derby, Ecklinville, Red Rennette, Keswick Codling, King of Pippins, Peasgood Nonsuch.

Self-Sterile. — Lane's Prince Albert, Beauty of Bath, Lord Suffield, Ribston Pippin, Worcester Pearmain, Cox Orange Pippin, Allington Pippin, Blenheim Orange, Cellini, Wellington, Warner's King, Sturmers Pippin.

Probbaly the Irish Peach, and Peasgood Nonsuch, are two of the most self-fertile apples, and as the latter, at any rate, is a good apple either for eating or cooking, it should be planted liberally in all orchards.

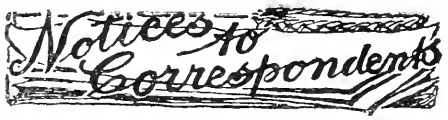
Mr. Corrie gives Lord Derby as Parthenocarpic, but many lists give it as self-fertile.

Amongst pears the favourite varieties again appear to be self-sterile, and require the services of the bee to make them productive. The following is a list of some of the better known kinds.

Pears. Self-Fertile. — Buerre Giffard, Doyenne Boussoch, and the Duchess d'Angouleme.

Self-Sterile. — Beurre Diel, Beurre Superfin, Louise Bonne, Clairgeau, Bon Cretin and Marie Louise.

MATTHEW ARNOLD.



"BEGINNER" (Kent).—*Swarming Queries.*—The best plan is to sell or buy swarms by weight—4s. 6d. per lb. for May and 3s. to 4s. for June swarms. Do not cut out *all* the queen cells after a swarm has left, or you will leave the stock queenless with no chance of rearing another queen. Make a nucleus—in a makeshift hive will do—with three combs, with one queen cell on the centre comb, stand it beside the old stock, and cut out all the queen cells left in it, but one. Should the queen in this cell be lost or killed, you will have the one in the nucleus to fall back on. When one queen has mated and is laying, the other may be taken away, and the three combs again united to the parent stock. You may unite two swarms in one hive, but give plenty of room by putting on supers at the time of hiving, and dust both swarms thoroughly with flour before uniting.

"A BEGINNER" (Devon).—*Hole in Skep Top.*—(1) The hole is to enable the bees to work in a super bell glass, or small skep placed on the top when it is used as a stock hive. Put a tightly fitting bung in the hole, when using the skep for taking a swarm. (2) Yes, you may do so, cut out all cells but one, and then give another super. If you have only one stock a good plan is to make a nucleus with two combs and the old queen in case of accident to the princess in the cell. See answer to "Beginner." Better remove these pieces of comb from the non-swarming chamber or you may find it built full of comb.

"H." (Broughty Ferry).—*Queen Cast Out.*—The queen had mated, but was getting old. The bees have probaby superseded her. Better examine the stock and see if there is a laying queen.

"W. H." (Hendon).—*Failing Queen.*—The queen was rather old, otherwise she appeared all right. We cannot say why she has not laid this season. This kind of thing does occur at times, and is one that, as Lord Dundreary would have said, "No fellah can understand."

"X. Y. Z." (Preston).—*Gas Tar for Stopping Crevices.*—It is not suitable for this purpose inside the hive. Stop up the crevices in floorboard with putty, and you may give a coat of tar underneath. (2) See reply to "A Beginner."

"G. A. W." (*Mill Hill*).—(1) Our columns are always open for the discussion of any topic of interest to bee-keepers. We shall be pleased if you will "set the ball rolling" yourself. (2) This has been tried at various times, but does not prove a success. See "Seasonable Hints" in issue of January 25, and also in this number.

"A. Nymph" (Cardiff).—(1) The bee appeared to be free from disease. It was a pure native, no trace of Italian blood. (2) The packing is removed when "spring cleaning." The best plan is to first transfer the bees into a clean hive, the old one may then be taken away and cleaned out where the litter does not matter. Personally, we never use packing between the outer case and brood box. (3) As soon as the hive is full of bees—that will be when they are occupying the spaces between the outer faces of the combs and the hive sides on both sides of the hive. (4) Yes, if necessary. (5) About an hour before sunset. (6) The effect of boiling the honey is to spoil the flavour, make it darker and thicker, and retard or prevent granulation. (7) Usually 5s., with a lower fee for cottagers.

"Willow" (Sheffield).—No. 1, male, No. 2, female blossoms of either *Salix caprea* or *viminalis*. The two may be distinguished by their leaves, which are not yet developed. The former has ovate or oblong leaves, whilst those of the latter are long, lanceolate or linear.

M. L. Chamen (Brentwood).—No alteration need be made in the parent stock after the issue of a swarm. Move the original hive to a new stand, and hive the swarm on the old stand. By this means you strengthen the swarm, as all the flying bees will return to the old place, and the parent stock is not likely to throw off a second swarm. You may put a super on the swarm at the time of hiving.

Suspected Disease.

W. F. Arnold (Bournemouth).—The bees show symptoms of "Isle of Wight" disease. Try one of the remedies advertised in our pages.

Larvæ and immature bees being cast out of the hive usually indicates a shortage of food. See "Seasonable Hints."

"Novice" (Carnforth).—(1) Hybrids. (2) There are symptoms of "Isle of Wight" disease. (3) It is safer to destroy them. Soak them in a 3 per cent. solution of Bacterol and water, or a 5 per cent. solution of Izal and water for an hour or two.

"C. W. L." (Rugeley).—It is "Isle of Wight" disease. Continue the treatment. The bees are almost pure natives; there is just a trace of Italian blood in them.

"J. B." (Atherston). The bees were affected with "Isle of Wight" disease. Judging by the symptoms you describe the other bees also died from the same cause.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

PRIVATE ADVERTISEMENTS.

WANTED, Simmins' Conqueror Hive, in good condition, cheap; also "Modern Bee Farm," by Simmins. DAVIDSON, Summerbridge, Harrogate. f 29

WANTED, early Swarms Carniolans; also Caucasians, Banats, Dutch, 3s. lb. given.—HARWOOD, 14, Windermere-road, Ealing. f 29

FOR SALE, on behalf of widow of late owner, several W.B.C. Hives, by Burtt, in condition equal to new, 12s. 6d. each; also several C.D.B. Hives, by Steele and Brodie, very substantial and in good condition, 12s. 6d. each; Honey Extractor, with covers and Cowan gearing, equal to new, 30s. Advertiser would arrange to accept healthy Bees in exchange if preferred. Also 10lbs. Beeswax good colour, 1s. 9d. lb.—AVERY, Deverell, near Warminster. f 30

WANTED, four strong Swarms of Bees, in clean skeps; also three cwts. of Honey.—Write, HENRY DUNSTAN, The Apiary, Wickersley, Rotherham, Yorks. f 31

FOR SALE, Honey Extractor, take frames or sections, Abbots' make, with top, 14s. 6d., good order.—W. WOODS, Normandy, near Guildford. f 32

STRONG, healthy Stocks British Bees, on 11 frames, boiling over, £4 each; will give owner 80 or 100 sections at the least in an average district. Cheques returned by return if sold out. On rail.—DAVID HANCOX, Deddington, Oxon. f 33

WANTED, Swarms of Bees, any strain, guaranteed healthy.—NICHOLAS, Norchard, Boulston, Haverfordwest. f 34

LIGHT Demonstrating Tent for disposal, 36ft. circumference, 45s.; photo.—EDWARDS, 22, St. Barls-road, Reading. f 35

CHOICE Essex Honey, in 28lb. tins, 1s. per lb.—MORRIS, Cranham, Upminster. f 36

HARDY 1917 Italian Queens, pure, fertile, reared by experienced breeder in France under climatic conditions resembling those in England. Buyers will receive queens direct from France in about a week after order, weather permitting. 6s. 3d. each. ELLIOTT, "Westfield," Kelvin-road, Ipswich. f 37

FOR SALE, twelve Hives, strong, various patterns; Extractor; gross Glass Bottles; four Straw Skeps; two Travelling Crates; Feeders; Dividers, and other appliances.—Address, "REYNARD," Bee Journal Office, 23, Bedford-street, Strand, W.C. f 38

QUIET Accommodation near bees wanted for summer by lady; good air; give particulars.—Box "E. C.," British Bee Journal Office, 23, Bedford-street, Strand, W.C. 2. f 39

WANTED, Stocks and Swarms of guaranteed healthy Bees. AUSTIN & McASLAN, Glasgow. f 40

WANTED, few healthy Swarms of Dutch or English Bees; state price.—A. E. ROWELL, Ashdon, Saffron Walden. f 41

BEE Stocks and Swarms wanted.—Price and particulars to J. H. HARPER, 101, High-street, Berkhamsted. f 42

WANTED to purchase, twenty good Swarms of Bees at once for cash.—Apply, SPRAKE, Bellvista, Chale, Isle of Wight. f 43

WANTED, several healthy Stocks or Swarms of Bees.—PENN, "Ashurst," Hailsham, Sussex. f 44

WANTED to book, fourteen Swarms healthy Bees, delivery May and first week June, at 3s. 6d. per lb.—Particulars to CATTANACH, Cat Ledge, Kingussie. f 45

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on May 17, 1917.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Messrs. C. L. M. Eales, G. Bryden, J. Smallwood, G. S. Faunch, W. H. Simms, A. G. Pugh, A. Richards, J. B. Lamb, J. Herrod-Hempsall, Association Representatives P. A. Cragg (Middlesex), F. W. Frusher (Lincolnshire), and the Secretary, W. Herrod-Hempsall.

Letters expressing regret at inability to attend were read from Messrs. T. W. Cowan, T. Bevan, F. H. Taylor and E. Walker.

The minutes of Council meeting held April 19, 1917, were read and confirmed.

The following new members were elected: Sir Arthur Herbert, Mr. P. Smith, Mr. W. Nicholl, Mr. E. C. R. Holloway, and Mr. D. Leigh.

Sussex Association nominated Rev. A. C. Atkins as their representative, which was accepted.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank for April amounted to £14 0s. 7d., the bank balance on May 1 was £129 16s. 1d., payments amounting to £9 10s. 10d. were recommended.

A preliminary examination at Studley was sanctioned.

Letters were read from Mr. E. H. Taylor and the Rural Organisation Council, and the Secretary was instructed to deal with them.

Next meeting of Council June 21, 1917, at 23, Bedford Street, Strand, London, W.C.2.

TIMBER FOR BEE HIVES.

We understand there is great difficulty in obtaining timber for making bee appliances, and that permits to obtain and use timber for this purpose have been refused. There has been a boom in bee-keeping lately, so many people are taking up bee-keeping that a great number of new hives are needed, and the demand will be greater as soon as swarms become numerous. In view of the fact that to make up somewhat for the lack of sugar we need to produce all the honey possible, and that bees also play such an important part in the production of fruits and seeds, bee-keeping should be looked upon as of national importance, and every facility granted to enable the number of bees kept in the country to be largely increased. No great quantity of wood, comparatively speaking, is needed to keep the industry going, and short pieces up to 8 or 9 ft. long, that are of no great use for Government purposes, would serve for making hives and appliances. If bee-keepers will write to their local M.P.s pointing out the importance of the bee-keeping industry, and ask them to use their influence to get the authorities to grant permits for the release of timber for making hives and appliances they will be rendering good service not only to themselves but to the country at large.

A WONDERFUL CITY.

THE LIFE STORY OF THE HONEY BEE.

By Oliver G. Pike, F.Z.S., F.R.P.S.

(*Continued from page* 147.)

There are, it seems, some bees either too old or too indolent to gather honey in the ordinary way, and one or two of these will manage somehow to find their way into invitingly luxurious hives, take all the honey they can, and then return to their rightful but poorer home. I once witnessed an extremely artful dodge by one of these robber bees. The bee in question tried several times to enter a strange hive, but each time it ventured near the entrance one or two sentries pounced out and drove it away. Not to be conquered, however, this bee made several more attempts to get in, but on each occasion was driven off. For a short time the would-be intruder rested on the alighting board of the hive, then slowly crawled towards the entrance again, and by degrees it was able to place itself in such a position that a great many of the returning bees which always hurry fast into the hive had to settle on its back, or to pass over it. At first I could not understand why it did this; but I believe bees recognise members of their own colony by scent, and hence this robber bee was evidently mixing with the home-coming bees, so that it should receive a little of their scent. However, whether this was so or not, I cannot tell; but this I do know, that the next time this bee tried to enter the hive, the ever-vigilant sentries seemed undecided whether to turn it out or let it pass. One sentry examined the intruder; another walked round the robber, while others seemed inclined to handle the stranger roughly. This was the wished-for opportunity. Without a moment's hesitation the robber put out

its tongue and offered the sentries a tiny drop of honey. This was eagerly licked up and immediately put an end to any doubt the sentries may have had, and while there was honey offered they treated the thief as a friend; however, when it again tried to pass in they still refused to let it do so. The bribe was again offered, and this time successfully, for the little robber now walked quickly forward and soon found out where the best honey was stored. Was this reason, I ask, or another case of blind instinct"?

But of all the most remarkable things I have read of, or witnessed, which go to prove that bees can in a way reason, the following is I venture to think the most conclusive.

I was standing in a room where I stored my honey; there were one or two small crevices through which bees managed to effect an entrance—there may have been twenty flying around, or attempting to leave the room with the load of stores they had taken from the open tins of honey.

On the window-ledge there were six tablets of bees-wax, which I had made from old combs which had been melted down; this had been purified, and it was a bright yellowish-white: it had been standing in the light for several days to bleach. A bee was vainly trying to beat its way out through the glass, and at last it settled at the foot of the window on one of the wax tablets. For a few moments it was motionless, then it slowly walked over, what to the little insect must have seemed a hillock of wax; this was very carefully examined. There was nothing strange in this, but what followed certainly showed great powers of intellect for so small a creature. Here it found itself in a land of plenty, honey and wax in abundance. It had some minutes before taken its fill of honey, and now it was standing on a mould of the precious substance of which it knew its City was built. What did it do? Without even a second's wavering, this apparently shrewd little adventurer began to scrape and bite off little flakes of wax. These gathered like a tiny heap of minute white shavings at its feet, and now it did a still more wonderful thing. How was it to carry this supply of wax back to the City? Its little mind told it there was only one way. How did it carry in the big balls of bright-coloured pollen it gathered when out in the meadows? In the flower-covered fields of summer it flew straight to the blossoms and carried back to the hive great bundles of Bee-bread, and so now for a moment it was confronted with a difficulty. How could it carry this supply of wax home? A little white heap stood on the square of wax, and still the bee pegged way at biting shavings off, and made another little heap. Then to my further astonishment, it picked up these little particles of wax and passed them to its back legs, and in the small hairy pouches in which it stored the pollen grains it placed these wax shavings, and when a big white load was on each leg it attempted to fly through the glass window. In doing this some of the wax dropped off, and before such a mishap could occur again I opened the door and liberated this remarkable little Italian bee.

I was not only interested in what I had just looked upon, I stood lost in wonderment. I have described this incident exactly as it happened, and I cannot help asking: Does this show progress? Here was a bee in a land of plenty, and its duty was to gather all the honey it could, and carry it back to the City; but not satisfied with that, it accidently found itseld on a heap of solid wax, and at once set to work to carry home a supply of this also. I have seen hundreds of bees in a room where wax was stored, and where they could freely get to it, yet I have never known one, with this exception, try to attempt to take any. While observing all this in admiration, it seemed to me, that in that tiny insect I saw signs of that great power-intellect which has made the world and man what they are to-day.

One of the most astounding mysteries of the hive is the fact that if a Queen should be lost, and the bees have no young larvæ or eggs from which to rear another, then a Worker-bee will sometimes take to laying. The Worker is an undeveloped female, and cannot in the ordinary way lay an egg. But these fertile Workers, as they are called, evidently had, when they were in the grub state, been reared in a cell immediately adjoining a Queen cell, and perhaps have had supplied to them a portion of the royal food. Whatever may be their origin they are able to lay, and although it has been impossible for them to have mated with a Drone *their eggs are fertile*, but strange to say they only produce Drones or males, no Workers or females can be reared from them. The eggs are laid in Worker cells, but only stunted or dwarf Drones are the result. The young Queen if unmated can also lay eggs, and these again only produce Drones.

I recently witnessed in my observatory hive a case which may account for the origin of fertile Workers. When I first placed the bees in the glass hive they did not get used to the light for several days, and the Queen seemed frightened and refused to lay eggs. Her attendants urged her on to lay, but she refused, and the result was that they killed her by "balling" her. That is, they clustered round her in a compact mass a little larger than a walnut, and smothered her.

Workers will never sting their Queen, and if they wish to kill her she is "balled" in this way. The Queen, again, will never draw her sting upon a Worker or Drone; she will never attempt to sting a human being or any other creature except another Queen, but in a fight she will not hesitate to stab a royal rival. As there were no young larvæ or eggs in the hive in suitable places for rearing Queen cells, these bees built some strange cells over Worker grubs, and instead of making the usual Queen cells, hanging from the sides or from the base of the walls, these cells—there were two of them—were covered with a brown capping level with the surface of the comb, and although each cell inside took up the space of three Worker cells they were not elongated in the usual way. I wish now that I had left them in to see what the resulting Bees would be like, but I cut them out and introduced a fertile Queen.

(To be continued.)

EXTRACTS AND COMMENTS.

By X.

The Queensland Bee-keepers' Association are publishing a quarterly journal to be known as the *Queensland Apicultural Journal*. It is a bright and interesting paper, and I hope it will have a successful career.

One of the objects of the Queensland B.K.A. is to encourage bee-keepers to enrol, and to assist each other to improve market conditions for honey in Queensland. An article on "The Need for Organisation," by J. N. Rosser, contains some very pertinent remarks, which may be taken to heart by bee-keepers here, both members of Associations and those outside. Mr. Rosser says: "While we remain unorganised and without means of communication with each other, we must expect to take such prices as the honey packers care to give us. . . . But it is no use your sitting still and waiting for the other man to do it all. Join the Association, send it your ideas, and vote by post if you cannot attend meetings. There are 1,000 bee-keepers in Queensland, and they have a common aim—the improvement of conditions both for producing and marketing. To clearly see what we can (or cannot) do while unorganised, imagine 1,000 separate forces attached to an object, attached to all sides of it, and pulling for dear life, but pulling in all directions, and at all paces. What would the result be? What else could it be but wasted energy? As one pulls one way, anything his efforts might do will be nullified by an opposite pull from one of the others. . . . What would you think of a jam manufacturer who had 1,000 factories turning out one product, taking care that no time or labour was wasted in production, and then when his jam was made turning it loose on the market in any old tins, all grades jumbled together, flooding the market, and lowering the prices when he had any to sell, and then leaving the market bare, so that prices would soar, and the middleman who bought and packed the jam, would reap most profit? What would you call him? But what else are we doing? There are over 1,000 of us producing one article. What will we do with it when it is ready to sell? Find out when and where it is wanted, or dump it on the market regardless of supply or demand? Do we all stand together and say 'We will sell No. 1 honey at 5d.', or do we let a merchant say: 'I bought a quantity of that quality at 3d., and won't give any more'? Have we any means of knowing what our total crop is, or how much our local market requires? Have we any means of stimulating consumption in the local markets? No! And why? Because we are unorganised, because we have not grown enough energy to pull together, because 825 of our 1,000 bee-keepers have not joined the Association.

"The remedy, and the only remedy is for *you* to *join the Association*, and to join it now. You must *act*. It is useless to *say* that is a fine idea and *do* nothing. Join the Association. Work for it. Butt in and do your bit. It can't run itself."

Mr. Rosser's advice is good. Too many members do not realise that their Association "can't run itself," but that all must "butt in" and do their bit. Everything is too often left to the secretary, and while some Association secretaries are working hard and doing wonders in keeping up and ever increasing the membership of their associations, and are splendidly backed up by their councils and members, there are others where both secretary and members are woefully slack, and leave the Association to "run itself," with the result that it runs itself down, and becomes moribund, or dies. Bee-keepers' Associations have not had such an opportunity for increasing their membership and forwarding the craft for years, as they have just now—in spite of the war and all it entails. Some are rising to the occasion, others are doing nothing, and for all some secretaries do they might as well be dead, only one hears a whine now and

again that disease has killed most of the bees, and a great number of the members are on active service, and as a result membership has declined and funds are low. All the more reason to buzz round and try to remedy these things.

Distance Bees Fly.—On this much-debated subject the editor of the *American Bee Journal* says: "Concerning the distance bees will go for honey. L. C. Root once had a very interesting experience. He had 100 colonies about seven miles from a heavy basswood harvest. The bees found it, but he thought it best to bring about a third of the colonies up to this timber. The result was that these bees harvested about three times as much as those who had to travel the seven miles. Forty colonies in seven days secured 4,103 lbs. of basswood honey, so although Mr. Root positively knows that bees can and do go seven miles for honey in an emergency, he believes in locating them as near the crop as possible."

There is also one other factor that will count for much, viz., the wear and tear of bee life in a long flight in search of nectar, and the greater risk of the bees being devoured by some enemy. I have known a greatly increased crop of honey to be secured from clover by moving the bees close to the clover fields.

A Bee-keeper Seven Years Without Being Stung.—The *American Bee Journal* quotes from the *National Enquirer*. "Miss Anna Pill, of Columbus, Ind., has the unique distinction of having run a profitable bee business in this country for more than seven years without being stung either figuratively or literally." It would be interesting to hear what variety of bees Miss Pill has, and the kind of bee dress she wears.

The Value of Honey.—From the *American Bee Journal*. "Honey has special value because of the minerals it contains, which are entirely lacking in sugar. One of these is iron. It is quite generally known that a very important part of the blood is the iron it contains, albeit in very small quantity. Iron and other minerals are contained in honey in the very best form of assimilation, and we would be a sturdier race if a large part of the sugar consumed were replaced by that best of all sweets produced in the laboratory of the bee."

I quite agree with the above, especially as another writer in the same paper says: "Very white sugar is not good because it has been bleached by the action of very powerful chemical re-agents. Traces of these are left in the sugar, which the bees seem to feel. This may explain the failure of some to get good results in feeding. Beet sugar is *always* so treated, moreover, blueing is put into it for the same reason that women use it in washing clothes."

For the reasons given the same writer, W. K. Morrison, recommends a yellow coloured cane sugar known as "vacuum pan" sugar for feeding bees.

A DORSET YARN.

Apple orchards everywhere are covered with flowers, the fair lands of Dorset are very beautiful just now. The great art critic, Ruskin, said the same; he saw the transcendant beauty of the apple blossom. Some varieties have more rose colour than others; it is noticeable with Lord Suffield, it attracts more bees than do Northern Spy, an American apple standing side by side. The former seems to have every variety of bee in this country visit it, and very pretty some of them are, all have a different song, several of them gather pollen, as does the Honey-bee. The Mason bee does, I have seen her cover it up with a clayey cement, she lays her eggs in the pollen before cementing it down.

Bees are very scarce in Dorset; it is very difficult to buy a swarm, so many write for them just now. One lady had one to-day in the top of a large pine tree. I tried to get it for a lady, but it was booked to someone a long time ago.

The Hollies are the principal attraction to the bees just now. This afternoon, as the sun came out warm, they all seemed to fly away to the "Holme Bush." The flowers are very small, but are in such great numbers, to stand beneath the trees it is like swarming time, so many bees are there. Turnips are also attractive to them, and some flower that has crimson pollen is in bloom. My bees are bringing home a good lot of this bright colour.

Honey is gathered in quantity when weather is fair, the sections are being filled in a very short time. I took out one for tea on a Wednesday, by the following Monday the new one was all drawn out, and a few cells nearly sealed. It was a piece of diplomacy to have one for tea, as a representative of one of the largest dairy companies in the South of England had come to see us. I have since had an offer for all sections of first grade, the best offer I have ever yet had.

Some stocks that I bought in the autumn were in small tea chests of three-ply wood. I have cut a hole in the top, and in less than a fortnight some have sections sealed over.

I mentioned a week or two since about the amount of water the bees consumed in the breeding season. I have had to cover

up the barrels we use for horses, as bees get into them, and are drowned.

It is a great boon to all in the craft that the "Seasonable Hints" should be in the B.B.J., as we can all learn something; no matter how long we have kept bees there is (I find) still more to learn of their habits. There is only one stock of mine that has not some sections to work in, a large straw skep, which is close on the size of a half-bushel measure. It has been covered with bees ready for swarming each fine day for more than two weeks, yet it has not swarmed. Why, is beyond my judgment unless it is that the cold nights frighten them from the venture.—J. J. KETTLE.

PRELIMINARY SPRING REPORT ON THE WINTERING OF BEES IN ONTARIO.

By Morley Pettit, Provincial Apiarist.

On April 5 a report form was sent to members of the Ontario Bee-keepers' Association asking for a statement of their winter losses and the prospects for the 1916 honey crop. On account of the backward season only a small number of these have come in to date of going to press. These are quite favourable as to the wintering of bees, except that in the most Southern counties the loss is reported to be very heavy. This can no doubt be accounted for by the fact that it is a common practice where bees will winter fairly well in an average season without extra protection to let them go at that. Then a severe winter comes and kills them off in large numbers. I have noticed the same condition in these counties repeatedly, and have warned the bee-keepers accordingly, but only a few pay much attention, and the others continue to lose heavily from time to time.

What loss is reported in other counties is caused principally by insufficient stores owing to the extra heavy consumption of food during the winter. The scarcity of fall pasturage no doubt had something to do with this condition.

Clover is reported to have wintered well generally, but the cold weather of April has injured it seriously, and it will require very favourable weather from this out to guarantee even an average crop.

There is scarcely any 1916 honey in the country. Two or three small lots principally in \$60 cans have been reported. Buyers are scouring the country to get what they can, and to contract for the new crop. A number of firms who have never touched honey before are out to buy this year. Bee-keepers will probably do well to hesitate about contracting in advance, unless at a very attractive figure. It would seem an utter impossibility for the demand for honey to be supplied within the next year or so at least.

Guelph, April 21, 1917.

ECHOES FROM THE HIVES.

I thought you would like to know that this last fortnight we have had some nice weather for the bees, and the fruit blossom is now at its best.

Yesterday, Saturday, May 19, I had my first swarm of the season, and my stocks all seem to be building up strong. Wishing all bee-keepers a successful season,—CECIL PECK, Twyfordsbury, Elm, Wisbech.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NEW ZEALAND APIARIES ACT.

[9443] The copy you published in yours of January 25, at the instance of Mr. Hamilton Grills, is not that of the Act now in force. With the exception of the word "honey" in Section 8, Sub-section (*b*), it is a fair copy of the one passed in 1906, which was never administered, because, while in Committee, in the absence of my chief and myself, three words had been added to my original draft, which we considered baulked the chief feature of the whole Act, viz., the absolute extinction of "box hives." Section 6 in the original draft read:—"Where bees are domiciled in common boxes," etc., they were to be transferred to frame hives, and the three words added made it read:—"Where bees *affected by disease*," etc. (italics mine) as in your copy.

The next Session an amended Act was passed, but when the Bill was before the Committee we found the word "honey"—referred to above—had been added, which, if passed in that form, every apiary would have had to close down. It was this draft you published, and not our Act.

My chief and self were before the Committee when the draft was considered. We got the four objectionable words expunged, and the amended Act was passed in 1907. In 1908 all our Acts were consolidated, and a few verbal alterations were made in the Apiaries Act to make it more concise. There has since been added by "Order in Council" regulations governing the importation of bees and material likely to introduce disease, and also with regard to Government grading of honey for export and the registration of all apiaries, which makes our Act as perfect as it seems humanly possible to make it.

Since this Act was passed our official figures show a jump from 470 tons honey as the output in 1907 to 1,250 tons in 1915. —I. HOPKINS, Auckland, New Zealand, March 27, 1917.

EARLY SWARMS.

[9444] Not having seen any reports in the JOURNAL of swarms this season, I dare say the following will be of interest:—

On Friday, May 11, a friend of mine, Mr. Cable, of Marks Tey, had his first swarm, but unfortunately it flew off before he could take it.

On Sunday, the 13th, Mr. Cable took a swarm for a friend of his, which is doing very well.

Both these were Blacks, or nearly so, having a very slight trace indeed of Italian blood.

On Monday, the 14th, I took a nice swarm for a neighbour whose bees I look after, and returned them to the hive, after removing some combs and supering. These are nearly pure Italians, having three distinct yellow bands.

All the above stocks had practically no attention or feeding—except the last mentioned, to which I fed one bottle of thin syrup on the weather breaking warmer.

On Friday, 18th, I had a rather peculiar experience, in that a small lot which I had divided from another colony seven days previously, swarmed out with the new queen, an imported Italian, which was introduced the day after division. They lit on the front of the hive of another small lot, and the subsequent slaughter can be imagined. I managed to secure them, and their progress is excellent up to the present, although they only cover three combs.

On examining the nucleus for reason of the swarm I found I had overlooked one queen cell, which was quite ripe, and the virgin came out to-day, Saturday, 19th, and as I have drones flying freely, I hope to soon have her mated, if this splendid weather holds.—F. M. CLARIDGE.

[9445] I had a fine swarm on Sunday, May 13. (Sure to be on Sunday).—W. WOOLLEYS, Evesham.

A QUEEN PROBLEM.

[9446] Women, it is said, are kittle cattle. So are the women of the hives—the queen bees. Let me give an instance in point. On Thursday, May 10, I received by post an Italian queen with a dozen attendants. To all appearances they were as dead as door-nails—chilled by a snap of cold weather which, just o' purpose, had come on. I put the travelling-cage near the fire, and soon its inmates began to move legs, etc. After a while, and a few drops of honey, a cheerful buzzing began, so, cutting a hole in the quilt of the hive to which I desired to introduce the queen, I placed the cage in position, covered up snug and warm, and left things alone until Sunday morning. On removing the cage I was surprised to see the Italian still inside it, although the candy which had stood between her and liberty was nearly all eaten away, and bees from the hive were passing in and out. While holding the cage the queen came out, and ran on to my hand, and on my raising the edge of the quilt, she must needs go down between the division-board and a spare frame of comb. Five minutes later she was still wandering about, piping occasionally, but when I looked again shortly afterwards she had found her way through the space at the bottom of the board. This was about 12 o'clock.

At 2 p.m., while sitting near the bees, enjoying what Tickner Edwardes says are the two best things in this world, "tobacco and sunshine," I noticed a mild commotion on the alighting-board of a nucleus hive, in which a newly-hatched virgin queen had been placed a few days before, so I concluded that the damsel was about to take a flight. I was right in my conjecture, for presently I saw her enter the hive (standing near the nucleus) where the Italian had, two hours before, made her début! Scenting trouble, and in my eagerness disdaining both smoke and veil, I at once lifted out the centre frame. A knot of bees caught my eye, and on parting them with my finger, her majesty's orange-red body appeared conspicuously. Seizing her by the wings I placed her in a match-box, and then caught the intruder and put her under a pipe-cover cage in her own quarters. The queen was kept in captivity until nightfall, when, adopting the Simmins' "direct" system of introduction, I allowed her to run under the division-board into the hive.

The problem that is puzzling me is this: Were those bees protecting the queen

against an attack by the virgin, or were they "balling" her? If the latter, surely in the two hours between 12 and 2 they would have had time to complete the business. As it was, the queen showed no signs of injury.

I should add that the virgin had been reared in the hive which she wrongly entered, and, having been in the nucleus for only a few days, may not have lost the odour of the parent colony, and so been allowed admission. Perhaps, Mr. Editors, you will kindly give me your solution of the problem.—A. C. WILLIAMS, 8, Corrennie Gardens, Edinburgh.

[The bees would be balling the queen. —EDS.]

PRESS CUTTINGS.

BEES AND FERTILISATION.

This is the blossom period of the year, and it so happens that in this particular spring all flowers are very late. It is to be hoped that fertilisation will be generally effective. Of course, some fruits, such as the strawberry, the loganberry, and the raspberry, are capable of fertilising themselves; but, as a rule, an external agent is required to carry the process through, and even the above-mentioned will have larger and more fruit if bees get to them. Gardeners must not overlook the fact that the bush fruits—gooseberries, currants, and the like—derive immense advantage from the attention of bees to their blossoms, as well as the larger fruits, such as apples, pears, plums, etc. I believe the last-named fruit, except the popular Victoria, will never, or only seldom, set without the assistance of some insect. I am told this is so, but it would be interesting to have the opinion of some expert fruit-grower on the subject. How important is the activity of the bee is shown by the fact that, after careful experiment and calculation, it has been proved that no less than 80 per cent. of fruit fertilisation is done by this particular insect, all others sharing with the wind the remaining 20 per cent. If there be no bees near, what a loss there must inevitably be, therefore, of fruit, both as to quality and size. Striking an average, the duration of fruit-flowering periods is about nineteen days, I suppose, taking the case of the larger fruits only. Consequently, there is none too much time for this work to be finished effectively on the thousands of blossoms, seeing that each one must be visited not less than five or six times to make the operation complete. This refers to the time after the blossoms are at their best and ready for the bees' labour. Gardeners say that fruit blossoms reach this stage in a week when the weather favours growth.

The Americans in the past have been foremost in experimenting upon fertilisation. One definite instance only may be quoted. It refers to seed-growing, but can be applied equally well to fruit-growing also. Of 100 flower-heads of red clover protected by a fine net, not one produced a single seed, while 100 heads left open, and which were visited by bees, yielded 2,780 seeds. Instances could be given of fruit-trees, too. Certain branches of these have been covered, others have been uncovered. The former limbs blossomed well, but no fruit followed. Those exposed to the bees bore plenty of fruit. Bee-keeping and fruit-growing are inseparably inter-related. It is time England woke up to this fact and definitely encouraged the cult of the bee on a large scale. It must be noted, too, that only one-tenth of the nectar is ever gathered from flowers.

Bee-keepers in May must diligently build up their stocks in anticipation of the honey flow. Surely this year this will be a heavy one, because flowers, etc., have been delayed and will doubtless burst out in great profusion when they have a chance. We hope there will be no very late frosts. Look out for swarms in the second half of this month, and have everything ready in good time. If the locality be an early one it is possible to put a super on in May, but be careful to keep the hive very warm. B. R. H.

From *Gardening Illustrated*.

VINDICATING THE BEES.

An agricultural society of Florence, Italy, has recently carried out a thorough investigation of the alleged injury of fruit by bees, and has completely exonerated the latter. These are unable to perforate the skin of fruit, and it is only incidentally that they suck the juices of fruits injured by other natural causes. The damage sometimes attributed to these insects is due to poultry, wild birds, wind and hail, and even more frequently to hornets, wasps, vine-moths, and other insects. Instead of being harmful to orchards and vineyards, bees perform the useful service of effecting the cross-pollination of flowers and hence the setting of fruit, as well as the desiccation of damaged fruits (especially grapes) by sucking the juice and pulp and thus preventing fermentation and rot extending to sound individuals. The orchards and vineyards frequented by bees give the most constant crops. From the *Irish Catholic*.

Notices to Correspondents

J. WHITE (Belvedere).—*Bees Casting Out Larvæ.*—The statement is perhaps rather too sweeping. Sometimes a few larvæ may be killed by wax moth or the bee-keeper may spread the brood too much, and the unsealed larvæ be chilled. One or two live larvæ are cast out occasionally and for no apparent reason, but if a large number are cast out, especially in the early spring, the cause will in nearly every case be a shortage of food. Examine the combs for wax moth.

"NOVICE" (Lyme Regis).—*Transferring Bees from Box to Frame Hive.*—(1) They should be removed now. (2 and 3) Fit up the standard frames with foundation, put them in the new hive. The box should be lifted on one side, and the new hive stood in its place, then place the box on the top of the frames, make the join beeproof, so that the bees can only get out by going down the new frames and out of the entrance. When the bees have built out the new combs and the queen has commenced laying in them, make certain she is on the new comb and place a queen excluder between the two boxes. In three weeks all the brood in the old box will have emerged, and it may then be removed, and a super put in its place. The best way to remove it is to place a super clearer under it. (4) No.

R. PHILLIPS (Briton Ferry).—*Painting Hive.*—You can paint the hive while the bees are in, using a quick drying paint, and doing the work in the evening, but it will be much better, in every way, to transfer the bees to the new hive, you can then paint the other at your leisure and make a much better job of it. Leave on the calico quilt, and four or five thicknesses of felt, or carpet. Put on the supers as soon as all the brood combs are occupied by bees

M. DEMPSEY (Wexford).—*Gas Tar for Bee Hives.*—This is not at all suitable for coating the outside of bee hives. It is always sticky in warm weather, and when manipulating hands, clothes, and everything else become more or less messed up with it.

"DOUBTFUL" (Ashford).—*Using Fermented Honey.*—If the top portion only is fermented take it off and heat the honey left in a water bath to about 120 deg. Fahr. for ten or fifteen minutes. This will kill the yeast germ, and the honey will be all right for domestic use.

The fermented honey may be used to make mead or vinegar.

Soak the combs for a couple of hours in a 5 per cent. solution of Bacterol or Izal and water.

Suspected Disease.

T. EDGELER (Catford).—There is no disease; the larva had been chilled, and had evidently been dead some time.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WANTED, before June 20, fourteen Swarms Bees, strong and healthy; any reasonable price given.—Particulars to WM. CATTANACH, Cat Lodge, Laggan, Kingussie. f 47

WANTED, four Swarms crossed Italians, healthy.—R. ROBSON, Wooler, Northumberland. f 62

WANTED, immediately, Stock of Dutch, Carniolans, or Italians, healthy.—BRIMICOMBE, Brooking, Totnes. f 48

WANTED, strong, healthy Stocks or Swarms of Bees.—ROBBINS, Statue, Whitton, Middlesex. f 50

4S. PER LB. cash given for two or three healthy May Swarms, any race; state particulars.—DOBSON, 47, Gowthorpe, Selby, Yorkshire. f 51

WANTED, three good, large, healthy May Swarms of Italian or Hybrid Bees; top price paid.—VINCENT, 132, Croydon-road, Anerley, S.E. f 53

SIX new Meadow's Hives, two lifts, and roof, frames, £1 each to clear.—CURTIS, Naturalist, Holbeach. f 54

FOR SALE, three Standard Hives (used only three seasons), 17s. 6d. each, complete; Extractor (once used), 21s.; also various small appliances.—Particulars from GLENDINNING, Champfleurie, Linlithgow. f 55

FOR SALE, Little Wonder Honey Extractor, 5s. 6d., free on rail; Ransomes' 14in. No. 2 Lawn Mower, 17s. 6d.; bargain.—W. WOODS, Normandy, Guildford. f 56

WANTED, Italian or Dutch Swarms; will exchange guinea Extractor for a swarm.—136, Station-road, Westcliff-on-Sea. f 57

WANTED, racks of healthy Drawn-out Combs, in sections or shallow frames; also Simmins' Conqueror Hive.—MADOC, Bedales, Petersfield, Hants. f 58

FOR SALE, complete Apiary Requirements. Lists supplied if stamped addressed envelope sent. Equal new, cheap.—WALLAS, West Cottage, Wigton, Cumberland. f 59

WANTED, immediately, a Stock of healthy Bees; £2 given. 5lbs. of Wax for sale; what offers?—MISS WRENCH, Betley, Crewe. f 60

STRONG, healthy Stock, on 10 frames, from Dutch bees directly imported in 1913; price £3 15s.—SAUNDERS, Sunny View, Bushey Hall-road, Watford. f 61

WANTED, early Swarms Carniolans; also Caucasians, Banats, Dutch.—HARWOOD, 14, Windermere-road, Ealing. f 29

FOR SALE, Honey Extractor, take frames or sections, Abbots' make, with top, 14s. 6d., good order.—W. WOODS, Normandy, near Guildford. f 32

QUIET Accommodation near bees wanted for summer by lady; good air; give particulars.—Box "E. C.," BRITISH BEE JOURNAL Office, 23, Bedford-street, Strand, W.C. 2. f 39

WANTED, Stocks and Swarms of guaranteed healthy Bees.—AUSTIN & McASLAN, Glasgow. f 40

TO CLEAR.—Fifty Racks, Sections, each containing twenty-four sections, tin dividers, full sheets, 4s. 6d. each; six dozen Shallow Frames, wired, full sheets, 9s. per dozen, racks 1s. 6d. extra; six dozen Drawn-out Combs, clean, 12s. dozen.—"APPLIANCES," BEE JOURNAL Office, 23, Bedford-street, W.C.

FOR SALE, by W. HERROD-HEMPSALL, Old Bedford-road, Luton, Ariel 3½ h.p. Motor Cycle and Side Car, in perfect condition; any trial or expert examination allowed; spares, belt, in leather case, two tubes, one cover, valve spring, back axle; all wheels fitted with Peter Union bands, back to saddle, horn, speedometer, three acetylene lamps, special luggage carrier on side car to carry two gallon can of petrol and one quart oil can, in addition to luggage, kick start, three speeds. Ridden by above, to be sold on account of medical advice; offers, or will exchange for Player Piano.

SENDING REMITTANCES.

Will subscribers, and others, please bear in mind when sending remittances that though the most cordial relations exist between ourselves and the B.B.K.A. the latter has no business connection with our papers. All cheques or money orders for B.B.K.A. should be made payable, and sent, to the secretary, and not mixed up with our accounts. Many people appear to be under the impression that our papers are owned by the B.B.K.A., judging by the number of cheques we receive, including in the one amount subscription to the B.B.K.A., insurance, and subscription to one or both of our papers, or remittances for books. It would be just as reasonable when sending a cheque to the grocer to make the amount large enough to pay the butcher's bill as well, and expect them to adjust the matter. We have even on several occasions received cheques to cover subscriptions to both the Journal and one or other of the county associations! This kind of thing causes a lot of needless trouble and delay in adjusting accounts, and in future if cheques are sent for these mixed accounts we may feel obliged to return them to the drawer for the amounts to be separated.

When stamps are sent for small amounts we prefer *halfpenny* to penny stamps; as we have before remarked, we can use two halfpenny stamps when a penny stamp is required, but if two halfpenny stamps are needed, and we have only a penny one, the latter cannot be cut in two.

It is astonishing how careless many people are in addressing letters, etc. We have several times received letters addressed "Office, 23, Bedford Street"—in some cases even the word "Office" had been omitted. Probably numbers of our readers, especially in the country, do not realise that in some of the blocks of buildings in the large towns there may be dozens of offices all with the same address. There are at present, in all, five occupants of No. 23, Bedford Street, and unless the name of the firm or person for whom a letter is intended is on the address, as well as the number, the postman does not know to whom to deliver it.

When a label is attached to a parcel the address should be written on both, as labels are often torn off in the post and delivered to us without any parcel.

We can put up with little irregularities now and again, but those dealt with have become so frequent we are compelled to draw attention to them.

A DORSET YARN.

Never have I known such a demand for bees as now; prices keep soaring up. I suppose it is the pars. in the daily Press on the necessity of pollination of fruit. Mr. Dorey, a farmer at Wool, wrote me that he cannot supply all his orders at 20s. per swarm. I myself paid two guineas for a pure Italian swarm from a small apiary of Italians near Broadstone, on the top of the heather-clad hills of Dorset. Letters come to me about bees from all parts, but one cannot sell "the goose that lays the golden eggs." I sent my first swarm off to Mr. Weaver, the able gardener to Major Tinker, at Chewton Glen, and what a swarm it was! It came from a half-bushel skep, and it looked as though there was half a bushel of bees. They had been hanging about for three weeks—English blacks of the wild type. The male is very black, has no particle of light down on the last segment of its abdomen, as have cross-bred bees: they seemed to have waited till almost all the young bees were out of the cells before swarming: there seems scarcely any left in the skep.

Another large swarm from a tea-chest (that had already filled a rack of sections) came out, and after about an hour in the hiving skep they all came out, and flew off to the roof of the Baptist chapel close by, where there had before been bees, which died two years ago. In several instances at Corfe Mullen has it been the same. Tom Arnold, a neighbour, has only two skeps; a swarm from each has gone off in the same manner—one into the roof of a house and the other across the Valley of the River Stour, to the woods of Kingston Lacey. Fred Fall has had two swarms from one skep. He had only one live out of six, and he had been offered 20s. each for the six in the autumn—he has a lot to make good yet.

Bees are still working the apple blossom, but the turnip and holly seem the greatest attraction. I have four acres of trifolium one sheet of colour. As one cuts the swathes with the scythe the bees go down with it. I have read somewhere that the tongue of the bee is not long enough to reach the nectar in this clover, but I should not think that these intelligent little creatures would waste a lot of time on it if they cannot get what they want when there is so much else they can gather from.

I want to get my stocks crossed with

the new lots bought last autumn, so have killed every drone from them, as they leave the hives in fine, bright weather, so that the young queens should be impregnated by the true blacks. I cannot understand why they should rear these hundreds of useless males, for Maeterlinck reckons that they each eat as much honey as six bees will gather in one day; so if there are a few hundred drones a colony cannot store away surplus honey at a fast rate. I am hoping by this crossing to be able to keep more alive through the winter, and to make them more able to withstand the disease. I have never had stocks so strong and vigorous as they are this season, and have not seen any crawlers about; nearly all of them throw out imperfect drones. I go round my stocks as soon as the animals are fed—between four and five—to see if there are any toads round the entrance, and at all hives there are a lot of white drones, or parts of them—the workers tear off legs and heads to get them out; they seem to have awakened to the fact that they have raised a great deal too many of the lazy parasites. J. J. KETTLE.

SOUTH STAFFORDSHIRE AND DISTRICT BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of the above Association was held at the apiary of Mr. E. H. Hipkins, Castle Mill Farm, Dudley, on April 28, at 3.30 p.m. Happily favoured by fine weather, it proved a delightful change from indoor gatherings, and was greatly appreciated by over thirty members who attended.

After an inspection of some of the hives, the usual business of electing the officers for 1917 was proceeded with, Mr. Hipkins occupying the chair.

The President, Vice-Presidents, Committee, Secretaries, and Representatives were the same as elected last year, with the addition of Mr. Clayton as vice-president and Mr. B. Hawthorn to the committee.

The Hon. Secretary, in presenting the accounts, said it was very pleasing to be able to report a balance of over £4 on the right side, a very encouraging item in this time of great national stress. The season of 1916 had been the best for many years, although the honey flow came rather late. Many members secured over 100lbs. of honey from single stocks, while one veteran bee-keeper secured 140lbs. and a swarm from one colony. "Isle of Wight" disease was the great blot which seemed to damp the ardour of bee-keepers, but there were encouraging signs that the disease would soon be dealt with successfully.

The advisability of starting a Re-stocking Scheme was discussed, but eventually this was referred to the committe for them to deal with it.

The Hon. Secretary was instructed to write a letter of thanks to Sir Walter Essex, M.P. for a Staffordshire constituency, for his services in obtaining from the Government the allotment of sugar for feeding bees, and expressing the hope that he would yet endeavour to get a reduction in the price, which at present was considered to be rather prohibitive.

A resolution regretting the inactivity of the Government and the Board of Agriculture towards bee disease was passed unanimously. — JOSEPH PRICE, Haden Hill, Old Hill, Staffs, Hon. Secretary.

KENT BEE-KEEPERS' ASSOCIATION.

ESTABLISHMENT OF BROMLEY BRANCH.

A successful conference resulting in the establishment of a new branch of the Association at Bromley was held at Park House (by the kind permission of the Guardians) on Wednesday evening last. There was a good attendance under the presidency of Mr. Alfred Dewey, the Chairman of the Association.

Pursuing the policy of decentralisation in connection with the organisation of their Association the Council convened this meeting for the purpose of discussing the question of the formation of a branch to represent the bee-keeping interests in the Bromley district. The proposal was very favourably considered, and it was unanimously decided to proceed. A committee consisting of the following members was elected:—Miss Gilby (Bickley), Mr. A. Goodwin (Bickley), Mr. W. Jenkins (Beckenham), Mr. J. Holman (Hither Green), Mr. A. Barnes (Anerley), Mr. A. C. Houghton and Mr. A. M. de Groot (Sundridge Park), Mr. T. Healy (Farnborough), Mr. E. R. Seadon and Mr. W. E. Clifford (Bromley). The latter was also appointed hon. secretary for the district.

In his opening remarks the Chairman stated that on Saturday last a similar branch had been successfully started at Sevenoaks, and bee-keepers there were very keen on stimulating further interest in the craft. At present the Sidcup branch was the strongest, and Mr. Shaw attended to represent that district.

At Rochester Mr. G. Bryden was representing the Association, and it was hoped shortly to establish another district branch with centre at Bexley Heath.

This would include the North Kent district from Erith to Woolwich.

In reviewing the rapid progress made during the past two years, it was considered that the Re-stocking Scheme, in the provision of bees, was to a large extent responsible for the Association's strong position to-day.

At the present time bee-keeping was a means of augmenting the nation's sugar supplies, and the Council considered on that score alone it was essential to develop the industry to the utmost.

Arrangements were made for holding the first lecture and demonstration at The Mansion, Sundridge Park, permission for which had been secured by Messrs. Houghton and de Groot. This will take place on Saturday, June 30, at 5 p.m., and the Committee extend a cordial welcome to all bee-keepers and others interested in the craft. Mr. W. Herrod-Hempsall, the Secretary of the B.B.K.A., has been secured as lecturer, and a well-attended meeting is anticipated.

BEE-KEEPING AT SEVENOAKS.

In these days of sugar shortage a particular value attaches to honey-bees as food producers. A lecture and demonstration organised by the Kent Bee-keepers' Association upon this aspect of bee-keeping was given at Sevenoaks on Saturday, May 19. By the courtesy of Miss Hare the event took place in the grounds of Walthamstow Hall. The meeting was well attended, about 100 bee-keepers and others interested in this alluring pursuit being present.

F. Swanzy, Esq., J.P., presided, supported by Mr. H. E. Warren, and the Association's officials from headquarters. Many distinguished visitors were included in the audience, among them being Lady Auckland and Mr. Simmonds, Mr. and Mrs. Warren, Dr. Alexander, Miss Hare, Miss Burtt, Miss Haines, Miss Cameron, Mr. Franks, Mr. Dain, Mr. and Mrs. Holman, and Mr. Chase (Dunton Green), Mr. Sutton (Chevening), Misses Milchers (Eden Bridge), Mr. Middleton (Halstead), Mr. Alfred Dewey (Chairman of the Association), Mr. G. W. Judge (Hon. Secretary), of Dartford. Mr. J. W. Price (Hon. Secretary of the Midland Division at Maidstone), was also present.

The Association had secured the services of Mr. W. Herrod-Hempsall, the secretary of the British Bee-keepers' Association, as lecturer, and the subject was handled with his well-known skill and ability.

Mr. Swanzy, in introducing the lecturer, said that it seemed a great pity that such vast quantities of honey should be permitted to be wasted annually in our orchards and pastures. It was doubly regrettable now that sugar was becoming increasingly scarce. To go no further, Kent offered abundant opportunity for profitable honey gathering, and every means should be adopted to encourage bee-keeping, and for his part realising what the Kent Association had done and would continue to do in this endeavour he would support it in every possible way.

The lecturer, in opening, stated that he proposed to deal with his subject as simply as possible, in order that the large number of beginners present should have no difficulty in grasping the leading principles of the craft. He laid stress upon the point that one of the finest honey-producing counties in Great Britain was Kent itself, and pointed out that its famous fruit crops were in no small measure dependent upon the little winged workers of the hive. A large percentage of the fertilisation of fruit blossoms was the work of the honey-bee, which carried out this essential operation in the course of its visits to the flowers for the purpose of gathering the nectar. As a result, more and better fruit was produced.

Bee-keeping is, he said, an occupation which could be successfully followed by ladies, and some of his lady students are now holding high positions under several Colonial Governments. He insisted, however, that unless prospective bee-keepers were prepared and determined to give their bees the attention necessary for their welfare they had better leave bee-keeping severely alone. Bees demanded comparatively little attention, but it must be of the right sort, and just at the right time. Haphazard and negligent bee-keeping was bound to lead to disappointment, and ultimately became a grave menace to the maintenance and progress of the industry in the vicinity. No reasonable excuse remained for careless bee-keeping. The Association was expressly formed to include in its activities free, willing and skilled advice upon all details of bee-keeping to such of its members who needed guidance and help from time to time. He had found bee-keepers were always ready to help one another; had it not been so Mr. Dewey and Mr. Judge, of Dartford, and Mr. Price, of Maidstone, would not have been present on that occasion. It was to these, and such men, a labour of love, and by joining the Association members were able to draw without stint upon an almost unlimited fund of knowledge and practical experience combined with the mutual benefits of organised co-operative effort.

Successful bee-keeping, said the lecturer, was a matter of brains. Intelligence and resource was its keynote. He advised

an earnest perusal of the "British Bee-keepers' Guide Book," and a practical acquaintance with manipulations through the Association to all intending bee-keepers as a preliminary to their entry into the ranks of the craft. If that course were adopted the difficulties attendant upon their efforts would be minimised and overcome. To attempt bee-keeping in a less methodical or intelligent manner would be to add one more to the already long list of failures at bee-keeping. In reality, if the habits of bees were intelligently understood, and manipulations properly carried out, bee-keepers found that failure was a word that need scarcely be thought of.

Mr. Warren provided a W.B.C. hive, the use of which the lecturer fully explained. One of the stocks in the apiary at Walthamstow Hall was very kindly placed at the disposal of the Association for demonstration purposes, and while the lecturer explained the many interesting features, Miss Burtt ably manipulated. The queen was caught on one of the combs, caged and passed round for inspection.

At the close of the lecture questions were asked and answered, and judging from their character it was evident that much enthusiasm prevailed.

The Chairman of the Association, Mr. Alfred Dewey, of Wilmington, outlined the Association's aims and objects, indicating that it was the Council's desire to establish a branch at Sevenoaks. The county was divided into three divisions, and the divisions were again subdivided into districts. Each district possessed a local secretary, and at Sevenoaks Mr. Warren had kindly volunteered to act as the Association's representative. The Association offered members the benefit of their organisation, free advice, and assistance if required, and provided the means of bringing members into touch with each other. The annual subscription was but 2s.

The membership roll had grown to considerably over 400, and as soon as it was possible to provide sufficient bees it was expected that this number would be greatly increased.

After votes of thanks were passed to the lecturer, to Miss Hare, Miss Burtt, to the chairman, and to Mr. Warren, the meeting proceeded to select a sub-committee to represent and administer the Association's affairs in the Sevenoaks area.

The Secretary of the Association desires to state that persons interested in apiculture and the production of honey are invited to communicate with Mr. Warren, of 84, High Street, Sevenoaks.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

EARLY QUEEN REARING.

[9447] Having had your valuable paper, the BRITISH BEE JOURNAL, for some years, and gained a lot of information from it, I should be glad if I may ask your readers if any have had another such case as this. On Boxing Day last I brought my eight hives of bees eighteen miles by road, and had the misfortune to let five fall out of the trap during the journey, smashing up a lot of combs, frames, bees, etc. I could only find four of the queens out of the whole eight. I presumed I killed four in the five hives that fell out. Now to keep them alive during the cold weather, as I had no syrup, I took combs from those that did not fall out and gave them to those that did, and early in the spring I put a comb of brood in what I call No. 2 hive. I watched the bees making a queen cell, and on, or about, April 29 I found a young queen, but not a sign of eggs or brood. About a week ago I looked again, and found combs, with eggs, larvæ and brood nearly ready to hatch. What I want to know is how did this young queen get fertilised, as there are no drones yet hatched, as most of the writers say they meet the drones in their flight? Can anyone explain this. I should like to write again in my simple way as regards "Isle of Wight" disease, if you could allow me space in your valuable little paper.—T. H. DAVY.

[We know of a similar case, in which a queen was reared and mated before April was out. The explanation of the early drones was that a neighbouring bee-keeper had a stock with a drone breeding queen. Fortunately there were a few fine warm days at the time the queen was ready for mating, and both she and the drones were able to fly, and she mated. Possibly something similar occurred with your bees.—EDS.]

HONEY IMPORTS.

We have received the following letter *re* honey imports :—

I have to state that the Government has directed that no information is to be given as to imports of Food and Drink into the United Kingdom, and that, in consequence, Bill of Entry Manuscript Returns relating to honey can no longer be furnished to you by this Department.

I am, Gentlemen,
Your Obedient Servant,
V. Bosman,
Deputy Principal.

Eat less Bread

PRESS CUTTING.

HONEY.

By F. A. Douglas.

It has been suggested that if sugar continues to rise in price jam will soon be an extravagance, and that we should use honey more and jam less.

Honey, which is now a luxury, was in old times a necessity, for it was the principal sweetener of food. Sugar was only introduced during the later days of the Roman Empire, and was described first as an "Indian salt" that was sweet as honey! Its introduction to Western Europe was probably due to the Crusaders, those admirable agents of international trade.

The numerous references to honey in the Bible are due to its being the common sweetener of the people; and to this day the Jews, who are fine old crusty conservatives, use honey in cooking where other people would use sugar. Still, it had a certain distinction, and was used as the symbol of fruitfulness and plenty. When Jeroboam's wife wished to propitiate the prophet she took him ten loaves, two cakes, and a cruse of honey. When Jesus reappeared to His disciples they tested His reality by giving Him a piece of broiled fish and some honeycomb to eat. As for John the Baptist, it is known to all that his common food consisted of locusts and wild honey.

Honey is symbolically a very suitable food for times of war economy, for it owes its very existence to the economy of the bee, as it is the food stored by the bee for use in winter. But man's ingenuity has been too much for both the guileless hen and the crafty bee. The untutored hen, having been got into the habit of laying eggs, continues to lay them without the impetus of the cock, and the careful, provident bee as fast as its winter food is ravished continues to procure and store up more.

Honey from the comb is considered the most luxurious form of this delectable sweet, and most people eat the wax with the honey; but, as one points out, this is as foolish as it would be to eat the paper that butter is wrapped in or the blue bag that is the familiar envelope of the sugar. The wax of the honeycomb is in no way nutritious, and it is decidedly indigestible. The proper way is to put a piece of honey in the comb on your plate, with the cells in a vertical position, and press your knife firmly down upon it, so that all the honey runs out. Eat the honey and leave the wax.

The bees, like the ancient gods, drink only nectar. The word and the idea are entirely Greek. The wine of the gods that conferred immortality became the symbol of sweetness and flavour, and so the name came to be used by botanists for the sweet juice which collects in the nectaries of the flowers. It is at once a superfluity and an ingenious device of old Mother Nature. It is indeed the reproductive juice of the plants, and so it confers immortality just as did the wine of Olympus. After the stamen and pistils have taken all they need, a residue remains, and this is the food of the bees and other insects. In seeking the nectar they further the purposes of nature, for the pollen often adheres to their wings, and they aid in fertilising the seeds.

The bee does not care for "blossoming flowers," as the poets imagine. It is a practical utilitarian creature, and prefers the period just before fructification. The bees dearly love clover; but many kinds of fruit-blossom and some kinds of forest trees are very useful to them. The blackthorn and the gorse yield it food in spring, and the heather and the blackberry and the ivy keep it going in autumn.

The flavour and quality of honey varies with the plants the bee feeds on. Heather honey is naturally popular in Scotland, and the famous Narbonne honey owes its flavour to rosemary. Hybla and Hymettus yielded admirable honey of old, and this was probably because so many fragrant herbs such as thyme, grew on the open sunny slopes of those southern hills. Occasionally the bee is injudicious, and

chooses injurious herbs, as in the case of the soldiers of Xenophon, who, after eating the honey of Trebizond, became either mad or drunk. This was due to the partiality of the bees for a certain poisonous azalea.

If the plants produced nectar and pollen all the year round we should have no honey; but the wise bee knows winter will come, and makes provision for it. Nectar is the normal food of the bees, honey an "emergency ration" manufactured from it in as concentrated a form as possible. Nectar consists of 70 per cent. of water, and the rest cane-sugar and flavouring matter. In honey, on the other hand, there is only 7 to 10 per cent. of water: and the cane-sugar, by the process of digestion, has become grape-sugar. All sugar becomes transformed into grape-sugar in the human system before it is assimilated. The bee, therefore, during summer digests and concentrates his food for winter. Each portion of nectar is digested by two or more bees, and regurgitated. The heat of the hive helps the process, and also aids in the evaporation of the superfluous moisture. Honey may, therefore, be called the Benger's Food of the bee.

Honey is not now much employed in cooking, yet many interesting uses have been made of it. Gingerbread, which we now make with treacle or syrup, was originally made with honey. Bruges and Brunswick are both famous for their honey cakes. The *best* gingerbread used to be made with honey: it was lighter in colour, and to differentiate and distinguish it further it used to be gilded: hence the common reference to taking "the gilt off the gingerbread." Flat gilded gingerbread figures were sold at country fairs, and known as "husbands." In an old almanac there is a reference to the choosing of wives. Women "trickt up with ribbons and knots" were not recommended.

"He who with such kind of wife is wed,
Better to have one made of gingerbread."

So there were gingerbread wives as well as husbands. Bruges honey cake is made by mixing 1 lb. of flour, two teaspoonfuls of baking-powder, and 1 oz. of ground ginger together. Then put in a saucepan 4 ozs. each of butter and sugar, and four tablespoonfuls of honey, stir gently until mixed, and then add the dry ingredients. Finally, stir in two well-beaten eggs, three tablespoonfuls of milk, and a little maraschino. Preserved fruit cut in large thin slices should be used; but, as I have seen it in Bruges, this is put in a layer on the outside, and it is decorative but misleading, for you think there is more fruit inside, and there isn't.

Of course, the great use for honey in old English days was to make mead and metheglin. Pliny said mead had all the bad qualities of wine and none of the good ones. Mead was made both in the north and south of Europe: but in the south the grape was more popular, whilst in the north the product of the bee reigned supreme. Mead was the Saxon drink; but the Normans brought the grape wine from France with them, and it became a potent rival.

"Fill me a bowl of meath, my working spirits to raise," sang an old poet; and it is a heady, exciting drink. The manufacture of it is not wholly abandoned yet, for you find it here and there in the southern counties of England. The honey which the humble bee stores in sunny banks used to be considered the best for it; but ordinary hive honey is now mostly used. The humble bee is old-fashioned in its methods, and not encouraged nowadays. Richard Jefferies mentions the partiality of the badger for humble bee honey, however.

In his *Closet*, Sir Kenelm Digby gives 106 recipes for making mead and metheglin. His disquisition on honey is very quaint. There are three sorts, he says: virgin honey, life honey, and stock honey. The virgin honey is made by the young bees, the life honey by the second-year bees. "And ever after it is honey of old stocks." He tells of metheglin from a Liége recipe and meath of Antwerp: of the "white metheglin of my Lady Hungerford, which is exceedingly praised," and of that of the Countess of Bullinbrook. There is the King's meath, which is made with Hyde Park water, hops, and many fragrant herbs and spices. In one recipe he says: "Before you set the liquor to boil, cause a lusty servant (his arms well washed) to mix the honey and water together, labouring it with his hands at least an hour without intermission."

Mead is but fermented honey and water, for many make it by stirring 5 lbs. of honey into five gallons of water, adding 2 ozs. of hops and the rind of three lemons, and simmering gently for an hour. Then pour it into a great earthenware bowl, and when lukewarm stir in a tablespoonful of yeast or barm. When this has worked for three days, strain the liquor into a cask, and add what herbs and spices you choose. Cinnamon, ginger, mace, cloves, nutmeg and rosemary are perhaps the flavourings most used, but there are innumerable others. Sweetbriar figures in some of Sir Kenelm's recipes, parsley roots, and "eringo-roots splitted."

Mead is English and metheglin is Welsh, and the Welsh name means "heal-

ing liquor." Honey has ever been a favourite vehicle for medicine, particularly for cough mixtures and aperients. Athole brose, the Scots remedy for a cold, consists of a judicious compound of honey, whisky, and oatmeal.

Everybody may not know that the honeymoon owes its name to the Teutonic habit of drinking metheglin for thirty days after marriage. Sir John Lubbock, however, thinks the habit of keeping the bride away from her relations for thirty days is a survival of marriage by capture.

Honey has its vinegar as well as wine, and the honey vinegar is made on the same principle as that from the grapes.

Honey is full of joys for the poet. It is a term of endearment, and a seductive adjective much used by Shakespeare. Richard III.'s wife spoke of his "honey words," and in the *Winter's Tale* we have "honey-mouthed" Pauline. "Honied nothings" have become a familiar commonplace. Milton talks of

"The bee, with honied thigh,
That at her flowery work doth sing."

But Herrick is the true laureate of the bee, and is full of delightful fantasies of how it sucked honey from Julia's lips. The bee sings:

"Sweet lady-flower, I never brought
Hither the least one thieving thought:
But taking those rare lips of yours
For some fresh, fragrant, luscious flowers,
I thought I might there take a taste
Where so much syrup ran to waste.
Beside, know this, I never sting
The flower that gives me nourishing:
But with a kiss of thanks do pay
For honey that I bear away."

The modern bee lives decorously in well-ventilated, scientific hives, and the picturesque old-fashioned "skep" is only to be seen in remote, unregenerate country districts. Yet the bee has had many and strange dwellings. There is the humble bee with its holes in sunny banks near its larder: the bees that Pepys knew, that filled fir-trees of honey: and the bees in Africa that store their honey in holes in the rocks. In Egypt the beehives are kept in a vessel on the Nile, and voyage up and down the river wherever there is most nectar to be had, just as in Scotland the wise apiarist takes his hives out to the moors in carts, and plants them among the heather.

Bee-keeping is interesting work, and bees are so easily reared that there is no reason why bee-culture should not be greatly extended, and honey become much cheaper than it is at present.—From *Chambers's Journal*.

BEE-KEEPER WANTED.

Can any reader give us the name of a thoroughly competent bee-keeper within easy reach of Llanwern, Newport, Monmouthshire, who would be willing to undertake the management of an apiary?

HONEY RECIPES.

A HONEY CAKE.

Rub together one and a half cups of honey and half cup of butter, add three unbeaten egg yolks, and beat thoroughly together; add five cups of flour, sifted with a *little* ground cinnamon if liked, and half teaspoon of salt and one and a half teaspoons of soda dissolved in two tablespoonfuls of orange flower water or plain water. Beat thoroughly, and add the three egg whites, well beaten. Bake in shallow tins, and decorate on top according to fancy.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

C. R. JONES (Buckland). *Queens mating with drones from fertile worker.*—If the drones are reared in drone cells they would be as large and capable of mating with a queen as those from a queen. A virgin would be almost certain to mate with a drone mothered by a queen, as they greatly outnumber the others, and are stronger and more vigorous; a laying worker generally makes use of worker cells.

M. H. JONES (Petworth).—The bee you sent was a drone, a cross between Italian and native, which had evidently mated with a queen.

F. CARLSON (Stourport). *Sugar Sample.*—So far as we can see the sugar is cane, and quite suitable for bee food. There is very little—if any—beet sugar on the market now.

Suspected Disease.

W. K. FLOWER (Bournemouth).—The bees died from "Isle of Wight" disease. We do not know of any swarm for sale except those advertised in the Journal.

A. M. LARNER (Doncaster).—"Isle of Wight" disease is developing in the bees sent.

F. C. KINSEY (Walsall).—The bees were too dry for diagnosis, but judging from what you say there is no doubt the trouble was "Isle of Wight" disease. As you have taken every precaution, you might venture to get another stock, and by using one of the advertised remedies as a preventive be able to keep clear of disease.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1d. per word as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WANTED, Swarm of Bees, any strain; will give up to £1; must be healthy.—WRIGHT, Lydiate Ash, Yardley, Birmingham. f 62

EXCEPTIONAL OPPORTUNITY.—TO LET or FOR SALE, as a going concern, a fully equipped Nursery, with glasshouses and about six acres of land, all in full profit, ideal spot for bees.—W. R. ROBINSON, Fulbourn, Cambs. f 63

SALE, Drawn Combs, "J. H. H.," Frames, 15½in., top bar, free from disease, 8d. each.—MARSHALL, 10, Brooklyn-street, Hull. f 64

WANTED, healthy Stock or Swarm. State kind and price.—BENTON, Wood-lane, Timperley, Cheshire. f 65

WANTED, strong Swarm English Bees.—HUNT, Hawthorn Cottage, Gt. Missenden, Bucks. f 67

W.B.C. type Hive, complete with 10 frames and foundation, 25s.; another, empty, 17s. 6d.; Double-walled Hive, 13s.; another with two racks, sections, 18s.; all newish, uninfected, painted, with lifts; 4-frame Nucleus later, with fertile queen and nucleus hive, 13s.—PATTULLO, 16, Grosvenor-street, Edinburgh. f 68

WANTED, a few good healthy Swarms, for cash.—HOPKINS, Wadswick Box, Wilts. f 69

FOR SALE, fourteen good Hives, comprising stand, floorboard, two body boxes, and roof; eight 6-frame Nucleus Hives, geared Extractor, Ripener, Feeders, etc. Owner giving up. The lot £4 10s. Purchaser to remove.—SECRETARY, 7, Bulwer-road, Leytonstone. f 70

WANTED, Swarms, guaranteed healthy; state price per lb.—SMART, Bellmans Green, Edenbridge, Kent. f 71

BEES WANTED, Swarms or Stocks; price and number for sale. Apply to W. A. PRICE, St. Giles, Analby-road, Teddington. f 72

WANTED, two First Swarms, guaranteed healthy. HALL, 9, Princes-road, Sale, Cheshire. f 73

PURE fertile Italian Queens, 5s. each; three for 13s. 6d.—APIARY, Burton Latimer, Northants. f 74

WANTED, a Hive of Dutch Bees or a good stock of other variety; must be healthy and strong.—Reply, stating price, to "A. H.," Hodshill, South Stoke, Bath. f 75

FOR SALE, 2 cwt. prime English Honey. What offers?—JOHN E. KNIGHT & SON, Wolverhampton. f 76

FOUR strong Stocks, on 10 frames, ready for supering; price £4 10s. per stock.—MRS. GIDDINS, Windmore Hall, South Mimms, Barnet. f 77

FOR SALE, limited number of 5-frame Nucleus Stocks, 1917 queens, 35s. each; also strong established Stocks, £3 each; June delivery, guaranteed healthy.—W. ION, Healing, Lincolnshire. f 78

UNITING.—Fine hybrid 1916 Queen spare, warwanted healthy, 5s.—CRUICKSHANK, Stationmaster, Grantown-on-Spey. f 81

FOR SALE.—5 maiden swarms of Bees, all from healthy stocks, dates of swarming 14th, 16th, 20th, 24th, 27th of May.—For price, J. MUNDAY, Beagley Farm, Thursley, Surrey. f 82

WANTED IMMEDIATELY.—Stock Dutch Bees; guaranteed sound.—CUTHBERT, Bingfield, Corbridge, Northumberland. f 80

WANTED, four Swarms crossed Italians, healthy.—R. ROBSON, Wooler, Northumberland. f 62

WANTED, immediately, Stock of Dutch, Carniolans, or Italians, healthy.—BRIMICOMBE, Brooking, Totnes. f 48

FOR SALE, complete Apiary Requirements. Lists supplied if stamped addressed envelope sent. Equal new, cheap.—WALLAS, West Cottage, Wigton, Cumberland. f 59

WANTED, early Swarms Carniolans; also Caucasians, Banats, Dutch.—HARWOOD, 14, Windermere-road, Ealing. f 29

TO CLEAR.—50 racks of sections, each 24 sections, tin dividers, full squares, 4s. 6d. each. Six dozen shallow frames, wired, full sheets, 9s. doz. 8 strong hives, 15s. each.—"APPLIANCES," BEE JOURNAL Office, 23, Bedford-st., W.C.2.

FOR SALE, by W. HERROD-HEMPSALL, Old Bedford-road, Luton, Ariel 3½ h.p. Motor Cycle and Side Car, in perfect condition; any trial or expert examination allowed; spares, belt, in leather case, two tubes, one cover, valve spring, back axle; all wheels fitted with Peter Union bands, back to saddle, horn, speedometer, three acetylene lamps, special luggage carrier on side car to carry two gallon can of petrol and one quart oil can, in addition to luggage, kick start, three speeds. Ridden by above, to be sold on account of medical advice; offers, or will exchange for Player Piano.

WANTED to purchase, twenty good Swarms of Bees at once for cash.—Apply, SPRAKE, Bellvista, Chale, Isle of Wight. f 43

FOR SALE, good Field Spaniel Bitch, broken to gun and retrieve, good yard dog, 25s., to immediate purchaser, or will exchange for anything useful; not livestock.—W. HERROD-HEMPSALL, Old Bedford-road, Luton. e 26

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

COLONIAL HONEY.—LEONARD HALL & CO., 6, Rood-lane, London, E.C., Honey Importers and Packers for H.M. War Dept., the leading Stores, &c. a 2

MESSRS. STONE & SON, LTD., Chemists, Exeter, are buyers of English Beeswax, in large or small quantities. Write, stating quantity and price required. a 2

LECTURES AT GOLDER'S HILL PARK.

Free popular lectures and demonstrations will be given at the Association's Apiary in the London County Council's Park, Golder's Hill, London, N. (nearest Station, Golder's Green Tube), on June 8, 15, 22, 29, and July 6 and 13, at four o'clock p.m.

On the same dates, at 6 p.m., a special course of lectures will be given, for which a small fee is charged.

W. HERROD-HEMPSALL,
Secretary.

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Act. Sergt. L. Warren, 84, High Street, Sevenoaks.—3rd Batt. H.A.C.

SEASONABLE HINTS.

The chief trouble of the tyro in bee-keeping at this season is swarming. This, it must be remembered, is nature's method for hive bees to multiply and perpetuate their species; and, as it is their natural instinct, bred in them for centuries probably, it is difficult—sometimes impossible—(it is a question if it is even desirable) to always prevent the bees swarming, and when a swarm does come out from the hive of a beginner in the craft, what a hullabaloo and excitement there is! Some one remembers that grandmother used to beat the frying pan with a key—the front-door key only was supposed to be really efficacious—in order to get the bees to "knit" or cluster. Presently the cluster is formed in a more or less accessible place, or at times the swarm decamps, and with it probably goes the chance of a good take of honey for that season. There is nothing perhaps that so exercises the mind of the person who intends to commence bee-keeping as the question of how to prevent swarming, or what to do should one come off. A young farmer once told us that when he started keeping bees he read all he could about swarms and how to take them, and then felt satisfied that, no matter how, when, or where he had a swarm, he would be able to manage it, and the first swarm that came out clustered in a position that none of the text books or other articles he had read had provided for, and he was thrown on his own resources after all, but succeeded in hiving the bees without any mishap.

Should a swarm come out the best thing to do in order to try and prevent it decamping and to get the bees to cluster at a reasonable height, is to get a pail of water and a garden syringe and syringe water over the flying bees. Send the water as high as possible so that it falls down on the bees like rain. If the syringe and water are not available, throw handfuls of loose earth over the bees in place of the water. As soon as nearly all the bees have joined the cluster lose no time in getting them into a skep. This should be stood on a sheet near the spot where the swarm was taken until evening, if possible, or, if that cannot be done, until nearly all the flying bees have joined those in the skep. Then cover the bottom of the skep with some open material, such as cheese cloth or "scrim," and carry it to the apiary and place in a shady place, allowing the bees to fly. The edge of the skep away from the sun must be propped up with a stone or piece of brick, and the sheet, if large enough, should be thrown loosely on the skep on the other side in order to keep off the heat of the sun. The method to be adopted to get the bees into the hiving skep will depend on the position of the swarm. Sometimes the bees will cluster on a convenient branch of a small tree, and about a yard from the ground, when it is an easy matter to shake them into an upturned skep. We have seen swarms 20 or 30 ft. high, on the bole of a tree, or where the thick branches fork from it, on a gate post, in the centre of a thick thorn hedge, on a bank, and in a gooseberry bush, and they have been met on the road in a procession a yard wide and several yards long. When the swarm is on a small branch of a tree that may be removed, shade it from the sun until a hive is prepared for it, then gently cut off the branch—a pair of secateurs will be found the best implement to use for this purpose—and taking care not to shake the

bees off, carry branch and swarm and lay all gently down on the board in front of the hive, into which the bees will run. Sometimes it will be necessary to fix the skep over the swarm and allow the bees to crawl up into it, hastening them a little by the judicious application of a little smoke. At others the bees may be brushed into the skep or be shaken on to the ground, and the skep placed over them, and when a swarm has gone into a hollow tree we have ladled them out with a small mug, or, if that was not available, scooped them out by handfuls.

When a swarm has to be hived by throwing it out of a skep or box on to a board in front of the hive, do not attempt to do it until evening, about an hour before sunset, or the bees, being already excited, will become more so, and take wing again.

If it is decided to return the swarm, one of two methods may be adopted: either examine the combs and cut out all queen cells and return swarm and queen, or cut out all queen cells but one and take away the old queen, returning the bees, in either case adding one or more supers to the hive.

If a new stock is made, remove the old hive to a new stand and hive the swarm where the old stock stood, also placing the supers, if any were on the parent hive, on the swarm. A good plan is to make a nucleus from three of the combs from the old stock, and stand at the side of the swarm; one comb should contain a queen cell, and when the young queen has mated and is laying, the old queen may be taken away from the swarm, and the nucleus and young queen united to it. When doing this cage the young queen for 12 hours. Fuller particulars on hiving bees are given in the "Guide Book," chapter vii., page 24.

In order to prevent swarming, give the bees plenty of room to work, and attend to the ventilation of the hive. If a moderate increase of colonies without impairing the honey harvest is desired, a nucleus may be made from one or more hives, frames fitted with full sheets of worker base foundation being inserted in the place of the combs taken out; at the same time add another super. This will check the swarming without unduly depleting the number of bees, and the nucleus will work up into a stock capable of wintering safely.

To give ventilation the front of the hive may be lifted by means of wedges until it is an inch or more high, or it may be lifted all round. One very successful beekeeper we know uses bits of section for this purpose. One bit is first put under each corner of the brood chamber, others are added when necessary until there are eight, which makes a little over one inch.

If the hive is a W.B.C. pattern, the outer cases should each be placed a little askew instead of fitting down in the usual position (see "Guide Book," page 64). The supers should all fit down tight, as usual, so that there is no direct draught up through the combs. The one objection to packing the brood chamber up all round is that the bees fly out at all sides, and this may cause trouble when manipulating.

A DORSET YARN.

Bees are still flying to the red trifolium; all seem to go that way. The air is full of the hum of bees, as if a swarm was going over towards the brilliant field of clover, the first flower of white Dutch clover I saw open when cutting the red this week. Hop clover has been out in flower some days. Even the bees seem glad of the heavy rains, for during a lull in last Sunday's rain they were all over the road in great numbers, sipping up moisture between the particles of flint. The holly trees are still a great attraction for them; the flowers are small, but they are in such great numbers round the prickly growths, bees crowd each other, so that the flowers are covered entirely. The pear trees show a good set of fruit with me this year; apples are trying to swell, there are too many of them set for a good quality crop; still, a lot of them are sure to drop before one need thin the fruits. Strawberries will soon be ripe, they have come on very fast this last week or two; not very many bees work the flowers of strawberries. I have one stock up in the field, but they do not work the flowers as I had seen at other times.

There is a great demand for honey. I have had to go round the hives and take out the filled sections, and slip in new ones in their place, to keep pace with the demand. It seems a pity to lift off the whole rack until it is full. Where I took out some I could see the under rack was filled but not sealed over. This is very quickly managed if you have a sheet of glass over the top of the rack, just a bee space between the sections and glass; the sections are cleaner, not that amount of propolis over the tops as when one has a quilt and no glass; a little smoke as the glass is lifted and the bees all go down below; take out the end spring wedge, and one can lift out the section wanted without disturbing all of them. This may not be the orthodox method, but I do not like to turn good money away from our little farm. I tell them that

it is mainly from the fruit blossoms; they go away pleased, promising to have some of the fruit when ripe. A good many people seem to fight shy of run honey, as it is so easy to blend foreign with the home-gathered nectar, but in sections sealed over they seem assured it is all correct.

I do not know if sections will be difficult to get. I have used up one case this year, and have ordered two more from different sources, but neither have turned up yet. If they cannot be got, I shall send to the people who make the chip baskets for our strawberries and raspberries to turn us out some in chips, and wire them together; it is no use to "wait and see" nowadays, the season will be gone. Since writing the above I have been under the horse chestnut trees, it is one continual hum of bees, mostly the deep bass of the bumble bee, as late as eight to nine o'clock at night.—J. J. KETTLE.

A WONDERFUL CITY.

THE LIFE STORY OF THE HONEY BEE.

By Oliver G. Pike, F.Z.S., F.R.P.S.

(*Continued from p.* 159.)

CHAPTER XI.

THE HARVEST OF HONEY.

A well-known naturalist has stated that without the aid of bees one hundred thousand varieties of flowers would disappear from the face of the earth. This is a startling statement, yet who would venture to contradict it? Few people realise what a vast amount of needful work the bee does in fertilising the flowers of Nature. The nectar secreted at the base of the flower is a necessary bait to the bee; in trying to reach this the bee has to push past that part of the flower containing the pollen grains; this dust adheres to the hairs on the bee's body, and when it settles on the next flower the pollen is mixed with that in this blossom, and so some of the flowers are fertilised.

"A little learning is a dangerous thing," said Pope, and some farmers have actually complained that bees do harm to the fruit! A fruit-grower can increase his crop by 75 per cent. by placing bees amongst his trees, especially in bad seasons. I have known a case in my own apiary, where plum trees within one hundred yards of the hives were overburdened with fruit, their branches could be seen breaking with the weight weeks before the plums were ripe, and yet in other districts comparatively close at hand the trees were almost bare of fruit. This heavy crop was entirely through the instrumentality of the honey-bee. The presence of a few hives in the immediate vicinity of gardens and orchards is a matter of the first importance, and those who wish to obtain the best seeds, and to secure the nearest approach to constantly-recurring profitable crops, will find it an absolute necessity to make an ally of the honey-bee. The cause of bad crops in many cases is really because the blossoms have not been adequately fertilised. Where a few hives are found this complaint is never heard, for the busy little people in their journeys to and from the flowers ensure a constant transmission and mingling of the pollen.

Look on an orchard in the springtime, or on a field of white clover in summer, and then try to realise that each blossom contains a tiny drop of honey secreted in it. You will then have some idea of the vast amount of this delightful food which is wasted. If the honey is not taken by the bee it simply evaporates with the heat of the sun. Each acre of white clover will produce each morning 10lbs. of delightful honey, and, providing the weather is good, this will continue for a fortnight. One acre of well-established fruit trees, especially the apple, would produce more, but unfortunately not many bee-keepers have stocks strong enough for this early crop, yet with proper management they should reap a rich harvest of this honey. The chief honey-flow in this country commences about the first week of June, and by the middle of July it is almost over, yet in that time, if the stocks of bees are strong and in good condition the honey will simply pour into the hive. In four weeks I have had over 80lbs. weight of honey brought into one hive, and this is far from a record. I believe that over 400lbs. of honey has been taken from one hive in the West of England in one season. This hive was in a favoured locality, and the seasons also happened to be specially favourable, so that the owner could take advantage of the fruit blossom in the spring, the white clover in the summer and the heather in the autumn.

If we go to the hive we shall see something of this great harvest. A vast population is here, all one turmoil of hurry and bustle. Thousands of bees are dashing out into the bright summer air; thousands more are returning, pushing past the hive sentries in one long, unending stream. If we were to follow this ingoing army, we should see something of how the honey is stored. For some weeks past the worker-bees have been busy constructing cells, and every available space in the hive has been occupied by the builders of the City to construct reservoirs in which to store the harvest of honey. The bee likes to store the honey at the top of the hive, while the lower portions of the combs are used to

rear the young bees in. The bee-keeper, knowing this, places the small boxes, or "sections," as they are called, above the brood chamber; there are usually twenty-one of these placed in a rack. A small piece of wax is placed at the top of each as a guide, or "starter" for the bees to work upon. This wax has the imprint of the cells stamped upon it, and the worker-bees soon commence to draw these cells out, and add to them. As work proceeds the cells are increased and more wax is added. About twelve hours later the wax is extended to such a degree that the side-walls are reached. The masons of the City do not rest day nor night, and the result is that the cells grow quickly, and by the time they reach the base of the box, honey has been stored in some of the completed cells. The whole is soon filled with honey and sealed over. The completed section is a familiar sight in grocers' shops. If no starter or wax guide had been placed in the section the bees would have constructed a rough, ungainly box of honey. The reason why the bee-keeper is able to get his bees to fill these boxes with just about one pound of honey is because the bee will go on increasing the length of its cell to several inches, or until an obstruction is found, then, when it reaches this obstruction it just leaves what is called a bee-space between the obstruction and the end of the cell; that is, it leaves room for the bees to walk comfortably between the sealed honey and the obstruction. Therefore, by placing these sections in rows in the hive and by having a thin sheet of metal between the rows, the bees just fill the boxes and then seal the honey in.

(To be continued.)

NEW FOREST BEE-KEEPERS' ASSOCIATION.

On May 31, at Ringwood Food Economy Exhibition, the above Association had a large stall of exhibits, and during the day special demonstrations were given by Mr. H. Bright, hon. secretary of the Association. The Chairman, Rev. L. W. Mylrea, and the Hon. Treasurer, Mr. C. S. Lermitte, were also present and gave assistance. Great interest was manifested in a large observation hive with bees in full work, and many names were added to the list of members. In introducing the New Forest Bee-keepers' Association to the audience, the Chairman (Rev. L. Mylrea) mentioned the fact that over £187,000 worth of foreign honey was imported into the United Kingdom during the year 1916. It was possible for nearly every one to keep bees and so lessen that enormous expenditure which proved how largely honey entered into the foodstuffs of the country. He dwelt especially on two chief reasons which prevented so many taking up bee-keeping, viz., the fear of being stung and the "Isle of Wight" disease, and showed how in each case with proper care and treatment these difficulties could for the most part be overcome. He explained that the work of the Association was not to induce others to purchase honey, but rather to become their own producers. Later, in an excellent demonstration and general discussion of bee-keeping, Mr. Bright commented on these particular points, and explained fully the general treatment and management of bees, special attention being paid to the treatment of "Isle of Wight" disease.

Among a large number of exhibits were many appliances and devices for the help of bee-keepers, and some excellent recipes for honey cookery with specimens of cakes, biscuits, mead, etc.

The special thanks of the Association are due to the Rev. M. Binney, Vicar of Ringwood, for his kind invitaton, and also to Admiral Sir George and Lady Egerton for their hospitality to the representatives of the N.F.B.K.A.

In the evening they were the guests of Colonel Thompson, who also very kindly extended hospitality and drove them home in his car.

Among others present at the demonstrations were the Earl of Egmont, Lord Manners, Sir George and Lady Egerton, the Rev. M. Binney and Colonel Thompson. —*(Communicated.)*

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

DEALING WITH SWARMS.

[9448] I would like to relate my experiences with swarms this season in order to obtain information through your Journal for future guidance. If you consider the communication of sufficient interest, it might be inserted in the pages

of your Journal for suggestions to be given by your readers. The facts, I think, are unusual, and I undoubtedly did that which I ought not to have done, and probably left undone many things I ought to have done.

I had three stocks which came through the winter well; one was very strong, the other two medium.

On Friday, May 25, the weather being very fine and warm, the strong stock sent out a swarm which settled on a thick gooseberry bush, not a particularly pleasant bush to manipulate with a strong swarm. I got it into a skep and placed in the shade until all the stragglers had settled, when it was removed to the site where it was to remain, and left until the evening. About 8.30 p.m. I introduced the swarm into a W.B.C. hive. The bees were much inclined to cluster outside, and as the weather was close and sultry I left the front of the hive propped up with the side blocks.

At 7 a.m., next morning—Saturday—when I looked at the hive the bees had

Eat less Bread

completely disappeared without leaving a trace behind, or a clue to their whereabouts.

At noon the same day (Saturday) the second hive sent out a swarm which settled on the branch of an apple tree. I got the swarm into a skep and left it on the ground in the shade in the usual way. The bees had no sooner settled into the skep when the third and last hive swarmed. This swarm, after circling round the garden, finally settled on the skep containing the previous swarm. The skep was almost completely covered outside with the bees, and with the swarm inside, was difficult to move without crushing. I decided to hive them into their permanent hive without delay. I rigged a platform with a sheet, etc., and succeeded, *secundum artem*, in introducing them into the hive. They ran in readily until about half had entered, when they seemed to be seized with panic, and poured out again in clouds, joining those on the table in flight. They were soon again all circling in the air. They now settled on a currant bush, but, being an exceedingly large swarm (two combined), they broke down all the branches and lay on the ground in a huge mass. I determined to hive them, according to the book, by bringing the hive close up to the bush, and by lifting the branches on to the alighting board to allow the bees to hive themselves—*vide* illustration in a famous bee-book.

This method seemed to promise success, for after carefully cutting off the branches and laying them on the alighting board and platform, the bees soon swept into the hive. But, again, after the greater part had gone into the hive, panic ensued, and they were soon all on the wing.

This time the swarm settled on an apple tree. I saw it was impossible such a large mass could be got into a skep, so I hived them into a lady's dress basket and left them in the shade until the evening.

About 8 p.m. I hived them into their permanent hive, having first put in a frame of brood, but many were left clustering under the porch and on the sides, the weather being very warm and sultry.

Next day (Sunday) nothing particular happened. I left the front of the hive propped up for ventilation. On Monday I lowered the body of the hive on to the floor-board as it was raining, but it soon became very hot, with thunder. The bees clustered more and more outside, and at 4 p.m. swarmed once more. They again settled on the same branch of the apple tree that they had done on the Saturday. They were again hived into the basket. I was now puzzled how I was to keep them in their hive. I was anxious not to lose them as they were an enormous swarm. I had given them ten standard frames and one frame of comb with brood. I therefore hived them again at 8 p.m. into a W.B.C. hive in the usual way, having raised up the front from the floor on bricks so as to give plenty of air. Next morning I found them on all the frames and masses clustered outside, as if they could not find room inside. I therefore placed a second broodbox with seven standard frames on the top of the first, making seventeen frames altogether. I left the front raised on the bricks for two days when I lowered it by degrees until it rested on the floor-boards.

The last look I had into the hive the bees were covering all the frames I could see, and seemed to be working well.—W.T.

[We shall be pleased to hear the opinions of any of our readers on the above. The treatment of swarms is more or less of a worry to many bee-keepers,

and, as a rule, "in a multitude of counsellors, there is wisdom"; it will be interesting and helpful to hear what others would have done under the circumstances.—EDS.]

"ISLE OF WIGHT" DISEASE.

[9449] Please print the following for the benefit of the many who still suffer from "Isle of Wight" disease. As I lost over £200 worth of bees by the disease a few years ago, I know the signs when I see them, and about three or four weeks since one of my hives showed unmistakable signs of an attack, crawling in hundreds in front of the hive and gathering up into bunches. I had written for "Bacterol," which I had intended to use in case I should ever require it, but it had not arrived, when I recalled having read some time since that common salt was efficacious.

I had no faith in the idea, but resolved to try it. I procured some ordinary table salt and sprinkled the crawling and bunched bees liberally, also the ground in front of the hive and the alighting board, but did not open the hive, and in less than an hour the whole of the affected bees had returned to the hive and not a crawler was to be seen.

I noted the bees ate the salt with avidity, and each one who came from the hive seemed to revel in that which I had put on the alighting board. I then treated every other hive the same, and from that day —now nearly a month ago—I have not seen the slightest sign of disease, and the hive that was affected is now as bright and prosperous as any of the others.—A. W. S.

WEATHER REPORT.

WESTBOURNE, SUSSEX.

MAY, 1917.

Rainfall, 2.42in.
Above average, .38in.
Heaviest fall, .90, on 27th.
Rain fell on 12 days.
Sunshine, 206.1 hrs.
Below average, 28.8 hrs.
Brightest day, 26th, 13.8 hrs.
Sunless days, 0.
Maximum temperature, 74, on 11th to 26th.
Minimum temperature, 36, on 2nd.
Minimum on grass, 27, on 9th.
Frosty nights, 0.
Mean maximum, 65.7.
Mean minimum, 46.7.
Mean temperature, 56.2.
Above average, 4.6.
Maximum barometer, 30.297, on 2nd.
Minimum barometer, 29.572, on 20th.

L. B. BIRKETT.

PRESS CUTTING.

SWARM OF BEES ASTRAY.

On Tuesday afternoon some excitement was caused in the High Street, Barnet, by a swarm of bees which had strayed from their hive. They settled first beneath the stone canopy in front of Messrs. Boots' premises, and, being disturbed, they flew to the opposite side of the street and settled in the young trees in front of the Wesleyan Church. Here they remained for some time, causing no end of commotion among passers-by. Mr. Flashman, an expert apiarist, appeared on the scene. He procured a box, secured the queen bee, and almost before one could say Jack Robinson, the whole of the swarm were with her majesty within the box.—*Barnet Press.*

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

DEALING WITH A SWARM.

[9061] We had a curious experience this recent Whitsun with our Dutch bees.

On Monday morning they swarmed, and their flight covered a very large area. They did not keep together, but spread out over our own garden (which is 60 feet wide) and the garden each side. After flying for about a quarter of an hour they collected again on the old hive. And in about another 30 minutes all went in again.

On searching the garden we found the queen bee, with about six attendants, on some lettuces about 6 yards from the hive. As we did not know what to do with her we placed her and her attendants near the old hive, and she went in.

On the same afternoon the identical thing happened again, but this time we found the queen a little further away from the hive, but still on the ground,

and the rest of the bees went quickly back to the old hive. Before, however, they had had time to go in again, we placed the queen in a skep and carried this near the old hive, in the hopes that some of the bees would collect round her, and we could later on hive in a new hive. But again she went into the old hive from the skep.

On the next day, in the afternoon, they swarmed again, and this time collected on an apple tree in a large bunch—but yet a third time we found the queen on the ground between the apple tree and the old hive—but this time with many more bees with her. We accordingly placed a skep over both queen and bees, and after crawling out from underneath they went back and apparently climbed the skep. Within a few minutes the whole bunch on the apple-tree flew to the skep, and after about half an hour had crawled inside. Later in the evening we safely hived the whole swarm—and I should say that it was a very fine swarm, judging by the much smaller quantity I originally received from Mr. Bee Mason last year.

Would you mind telling me if the behaviour of the bees on these occasions was a usual one, and if we could have done anything else to have hived the bees, say, on the first or second occasion, since we handled the queen in both instances?

I am quite a novice at this sort of thing, having never hived a swarm before.

The bees appeared to me to be wonderfully fine and healthy, which is a matter for congratulation, since we have lost all our English bees by the disease.—W. E. BRADFORD.

[Reply.—The queen was unable to fly many yards. On the first and second occasions the bees lost her, and had you not found and returned her to the hive she would have died. When the first young queen was able to leave the hive the bees would have swarmed with her. The third time, as there were more bees with her, they were able to let the rest of the swarm know where she was, with the result they all joined her. Under the circumstances the behaviour of the bees was exactly what one would expect. Had you found the queen before the bees returned to the hive and held her among the flying bees in your finger and thumb, the swarm would have clustered on your hand and you could then have hived them! That is, however, rather too much to expect from a novice, and probably you might have secured them by placing the queen in the empty skep and holding it amongst, or near, the flying bees until they had located her.]

Notices to Correspondents

E. J. WALKER (Somerset).—*Price of Honey.*—There is every indication that honey will be a high price this year. The upward tendency appears general, not only here but in other countries. No doubt the price will vary in different localities. Your grocer's quotation of 1s. 4d. per 1lb. jar is a fair price. A shop owned by a well-known London firm and about 100yds. from our office, has displayed in the window honey labelled English, medium colour, 1s. 9d. per 1lb. jar, and sections 2s. each. Narbonne honey is quoted at 1s. 11d. per 1lb. jar. In another shop we noticed small red earthenware jars, holding about 12ozs. of honey, marked 1s. 4d. each.

"DRONES BY THE THOUSAND" (Bristol).—*Too Many Drones.*—You omit to mention several important points, therefore we cannot say with any degree of certainty what has happened. The old queen was a drone breeder, or the queen was gone, and a laying worker was in the hive. Before introducing the Italian queen did you remove the old one? If not, the Italian would be killed, and the same thing would probably happen in the case of a laying worker. You do not say whether the drones at present in the hive are Italians or natives, or what race the old queen was. If the drones are Italians, the Italian queen may also be a drone breeder. If natives, the Italian queen is dead, and the hive is headed by the old queen or a laying worker. The bees *may* raise another queen from the eggs given, but to make certain the old queen should be taken away. If the trouble is a laying worker, distribute the combs and bees among the other stocks, or destroy the bees and restock the combs with a swarm.

"NOVICE" (Cheam).—*Larvæ Cast Out.*—The larvæ are probably drones. We cannot say why they are cast out, but it is not an unusual thing, and need cause you no alarm.

You may now leave the ventilator open day and night.

"W. M." (Northwood).—*Use of Eke.*—This is for use under the brood chamber during the winter, and should not be left there in the summer, or the bees are almost certain to build comb in it. The better plan is to give room at the top by putting on more supers. We cannot say, without examination, what the other stocks are likely to do. Take away the ekes, and when the bees are strong enough they will probably go up into the supers.

J. HAMSHAW (Sussex).—*Air Chamber Under Brood Box.*—The bees will winter quite safely with an empty space under the brood chamber. What you refer to is probably the chamber under a so-called "non-swarming" hive. If left open and empty during the summer the bees will fill it with comb, either close it—some provision will probably have been made for this—or put in ten shallow frames with worker comb, and allow the bees to use them for breeding purposes.

G. S. WILLETT (New Cross).—*Obtaining Bees.*—Roughly speaking bees are nearly double the pre-war prices. Candy is still obtainable. Any appliance dealer can get it for you.

C. R. BARTLETT.—We do not know of any bees for sale except the few advertised in our prepaid advertisement column.

"CURIOUS" (Theydon).—They are the cells of the Mason Bee.

J. WHITE (Belvedere).—Sex, male; race, native. *Suspected Disease.*

W. WATSON (Stirlings.).—We fail to find any disease in the drones.

J. R. DEIGHTON (Darlington).—"Isle of Wight" disease.

J. JONES (S. Wales).—The bees were too dry for diagnosis, but so far as we could see there was no disease.

F. WRENCH (Crewe).—"Isle of Wight" disease is just developing.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per word as* "**Business**" *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ¼*in., or* 5s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

MY QUEEN BEES are all booked up to July 15. Special offers are countermanded till further notice.—E. PENNA, Bologna, Italy.

TWO ½ cwts. Honey, from 1916 cappings, 50s.—DUTTON, Terling, Witham, Essex. g 11

WANTED, for patients of Red Cross Hospital, good Swarm healthy British Bees.—Particulars to MISS M. COATES, Broad Heath, Presteigne. g 12

BARGAIN.—Glass Quilt; watch bees work.—51, Lower Mortlake-road, Richmond, Surrey. g 13

FOR SALE, one 1916 British Queen Bee, guaranteed healthy, 2s. 6d. — CROWE, Stawell, Bridgwater. g 1

"ISLE OF WIGHT" DISEASE.—Colonies of bees affected with "Isle of Wight" disease wanted for scientific purposes. Write, stating the number of frames of comb the bees cover, and price required to, C. HANSLOPE BOCOCK, F.R.M.S., The Elms, Ashley, Newmarket. g 3

WANTED, two Swarms of healthy Bees.—Price to J. CORNER, Cliviger, Burnley. g 4

STOCK on eight standard frames, 1916 queen, in new 10-frame hive, with lift and rack sections, £4 10s.; guaranteed healthy. — W. WOODS, Normandy, Guildford. g 5

FOR SALE, good Bee Hives, 10 to 12-frame, ventilated floorboards, with sliding arrangement, lifts, cases, and section racks; from 8s. to 10s. each. A lot of Divisible Hives, 3 and 4 tiers (latest), 5s. to 10s. each. Extractor, 12s. 6d. Sections, Excluders, Foundation, Smoker—everything required, from an advanced bee-keeper for forty years.—Islington Hall, King's Lynn. g 6

FOR SALE, Barrel Extractor, equal to new.—BAGGOTT, Burnside, Cusop Hay, Herefordshire. g 8

WANTED, W.B.C. Hives and Inner Brood Boxes, also Geared Extractor.—Full particulars to BABBAGE, 33, Whitestile Road, Brentford. g 9

SIXTY Double-cased Hives, of first-rate quality, for sale. The equal of them cannot be made now "for love or money," as timber for hive-making is prohibited. Made of first quality wood; such hives, could the wood be bought, would probably cost some 50s. each. Sent out painted an extra coat and guaranteed free from disease and waterproof at 21s. each. These hives are far better value than any new ones offered at much greater cost.—Particulars of S. P. SOAL, Brook-road, Prittlewell, Essex. g 10

SWARMS, Stocks, or Nuclei wanted; any quantity, healthy; reasonable price.—TOM COX, 115, Addison Road, King's Heath, Birmingham. g 7

EXCEPTIONAL OPPORTUNITY.—TO LET or FOR SALE, as a going concern, a fully equipped Nursery, with glasshouses and about six acres of land, all in full profit, ideal spot for bees.—W. R. ROBINSON, Fulbourn, Cambs. f 63

FOR SALE.—5 maiden swarms of Bees, all from healthy stocks, dates of swarming 14th, 16th, 20th, 24th, 27th of May.—For price, J. MUNDAY, Beagley Farm, Thursley, Surrey. f 82

FOR SALE, complete Apiary Requirements. Lists supplied if stamped addressed envelope sent. Equal new, cheap.—WALLAS, West Cottage, Wigton, Cumberland. f 59

SIX strong Hives, zinc roofs, 15s. each; six, with wood roofs, 12s. 6d. each; fifty Racks of 24 sections, fitted with tin dividers, and full sheets of foundation, 4s. 6d. each.—"APPLIANCES," 23, Bedford-street, Strand, W.C. 2.

BUSINESS ADVERTISEMENTS.

CHOICE PROLIFIC ENGLISH QUEENS, 1917, from non-swarming stocks, tested and selected, 6s. each; safe arrival guaranteed (12th year). Illustrated work, "How to Prevent Swarming," with many photos of bees and their work, 7d. All post free.—WILKES, Four Oaks, Birmingham. a 4

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

HONEY EXTRACTED. — Advertisers invite offers of heather and other kinds of home-gathered, in bulk. Last season's or this season's when ready. State probable quantity and lowest price for prompt cash.—"R. J.," BEE JOURNAL Office, 23, Bedford-street, Strand, W.C. 2. a 5

PURE Italian Queen Bees, ready third week in June and onwards.—Particulars from CROWE, Stawell, Bridgwater. g 2

COLONIAL HONEY.—LEONARD HALL & CO., 6, Rood-lane, London, E.C., Honey Importers and Packers for H.M. War Dept., the leading Stores, &c. a 2

MESSRS. STONE & SON, LTD., Chemists, Exeter are buyers of English Beeswax, in large or small quantities. Write, stating quantity and price required. a 3

HARDY 1917 Italian Queens, pure, fertile, reared by experienced breeder in France under climatic conditions resembling those in England. Buyers will receive queens direct from France in about a week after order, weather permitting, 5s. 9d. each.—ELLIOTT, "Westfield," Kelvin-road, Ipswich. f 37

STOCKS of BEES for SALE.

Extra strong ten-frame Stocks, free from disease, ready for supering, 60/- carriage paid, also **CHOICE GOLDEN QUEENS** 5/6 each post paid These queens are something special, beautiful colour, very prolific, and bred from stock that have never had disease. Reduced price for quantity.

Miss D. K. ALLBON, Sunnyside, Hitchin.

HONEY FOR SALE.

West Indian, 112s. to 118s. cwt.; Californian, 130s. to 150s. cwt.; French, 130s. to 136s. cwt.

Special prices quoted for 3-5 cwt. barrels, carriage paid. Free tins and cases. Cash with order. Samples 3d. each.

Secondhand Watertight Tins bought for cash, must be suitable for honey.

A. GORDON ROWE, 28a, Moy-road, Cardiff.

LECTURES AT GOLDER'S HILL PARK.

Free popular lectures and demonstrations will be given at the Association's Apiary in the London County Council's Park, Golder's Hill, London, N. (nearest Station, Golder's Green Tube), on June 15, 22, 29, and July 6 and 13, at four o'clock p.m.

On the same dates, at 6 p.m., a special course of lectures will be given, for which a small fee is charged.

W. Herrod-Hempsall,
Secretary.

DEALING WITH ADVERTISERS.

It is not often we have any complaint of advertisers in our prepaid columns, but we do now and again hear of the goods sent not being exactly as described. We do not insert advertisements from any person concerning whose *bona fides* we have any suspicion, but it is obviously impossible for us to examine all goods advertised to see that they are as described. In order to secure both buyers and sellers against fraud, we some years ago instituted a deposit system, at a very moderate fee, of which a number of both buyers and sellers take advantage. We always investigate when any complaint is made, and do our best to secure fair treatment for both parties, but it would be much better, when dealing with a stranger, if the deposit system was insisted on, and no honest person would demur to this if the purchaser paid the small fee and expenses—the latter rarely amounting to more than 3d. To prevent mistakes our rules should be carefully read.

A DORSET YARN.

The week ending June 9 has been a busy week with the bees. Surplus honey is being carried into sections at a prodigious rate; the chief source of it on our fruit farm is the raspberry. As early as 5 o'clock in the morn till 9 o'clock at even they have been working the long lines of "rasps." I have one that was found by a keeper growing in the woods, very large fruit and very thick canes—a perpetual bearer. One can (in summer) see ripe fruit and flowers at the same time, a thing I have not seen on any other variety. Bees must have cross-fertilised the flowers and birds dropped the seed in their excrements in the woods. It is named "Lloyd George Perpetual." The bees are no respecter of varieties, but they get a lot of nectar from this one, and I have extended it considerably because of its heavy cropping capabilities.

All varieties of clover seem now to be in bloom; the fields are one huge flower garden. Dorset to-day is at its zenith—the pastures are golden with buttercup. Cows will not eat it, yet they clear it up when dried in hay. The fields of ley grass and clovers are gorgeous just now. Next week hundreds of acres will have the cutter laying it down for hay. What heavy crops there are! The hard frosts of last winter seem to have moved the subsoil and let the roots of grass and clover down to extract all the plant foods from the soil.

Bees are not particular as to time of swarming. One came out as late as 4 o'clock this afternoon. On Wednesday they were out and gone half a mile by 9.30 in the morning—a huge one from a bar frame hive. They must have raised a young queen to have gone so far. (I was away in the potato fields sowing sulphate of ammonia between the rows before the horse cultivator came along to work it in. I find this the best manure to give weight to the tubers.) I let them stay in the skep till dinner time, then took them home, and lifted up the front of hive (which I had prepared), and jerked them out in the front. They gave me no trouble beyond blocking the entrance by wanting to cluster on the front, which I find they all want to do. By running the fingers spread out along the front they drop off on the alighting board, and hurry on into the hives. I was able to do this with two swarms in one day within a few minutes after swarming. I shook them into a skep and carried them straight off to the hives and jerked them out in front on a soft bag. They gave no trouble, but the third one I tried in like manner would not go in (it came from the same hive that went off into the chapel roof eight days before). They all flew back to the peach tree where they clustered before. I shook them again, and tipped them out in the front once more. They went in this time, but in half an hour I came back to look, and they had all gone back to the peach tree. This time I left them under the tree till after tea, and tried them with a hive which had a porch over the entrance, and they were no trouble. Two went clean away this last week. They came out from the stocks I bought in autumn (the second lot with young queens), and went off without any stop, which is most unusual with me, and straight off across the valley of the River Stour to the woods of Kingston Lacy.—J. J. Kettle.

EXTRACTS AND COMMENTS.

By X.

No doubt many readers of the BRITISH BEE JOURNAL will notice that this column is not now headed with the familiar "By D. M. Macdonald." Unfortunately our old friend, "D. M. M.," is for the present unable to continue the interesting extracts, and, therefore, I am doing my modest best to fill the gap, and for the present, at any rate, prefer to remain plain X., "an unknown quantity." I hope the "extracts" will be useful and helpful, if the same cannot be said of the "comments." However, I will do my best in the little time at my disposal, although no one realises better than myself that D. M. M. is a "hard one to follow," and no one will be more pleased when he is again able to undertake the task.

The spirit of change has come over both *Gleanings* and the *Bee-keepers' Review*. The former is now a monthly, and the latter has presumably executed a "deed poll," or something to the same effect, and changed its name to the *Domestic Beekeeper*. It has also enlarged both number and size of its pages. In the April number Mr. D. Anguish gives some excellent advice on comb honey production, and he hits the nail on the head fair and square in the first paragraph with the following:—"In the first place, before considering about producing honey at all, any season, and to accomplish anything at all, is for the bee-keeper, if he is a bee-keeper, to have his bees WELL CARED FOR IN THE FALL WITH GOOD QUEENS, LOTS OF YOUNG BEES, and not just sufficient stores, BUT ABUNDANCE, for there are more bees lost by just having sufficient stores to carry them through until they starve to death in the spring, than all the other ways combined." . . . ABUNDANCE OF STORES WILL ALWAYS LAST, AND WILL BE SOMETHING THE BEE-KEEPER CAN RELY ON AS A SAFE INVESTMENT." Every bee-keeper should cut that paragraph out, or copy it down in bold writing and paste it up where it is bound to be seen. It should not only be seen, but acted upon, and it applies equally to the comb or run honey producer. Possibly some bee-keepers, especially among the inexperienced recruits to the ranks during this war-time boom in bee-keeping, will be tempted to take all the honey they possibly can from the hives. This will be a mistake, and care should be taken to leave an abundance of winter stores for the bees. Instead of 25 leave 30 lbs.; that extra 5lbs. left to the bees now may mean the difference between the loss of the bees from starvation next spring and the stock coming through in good form and giving from 40 to perhaps 100lbs. of surplus next year, to say nothing of other benefits. This may be looking a long way ahead, but it is well to do so. We are proving in many ways just now that a shortsighted policy is not by any means a good one.

The latter portion of the article, "A few dont's, especially for the small bee-keeper," is also worth remembering. "Don't try to produce comb honey on a weak colony, because it cannot be done.

"Don't put sections on bees towards the end of the season only to be spoiled by being daubed up with propolis by the bees.

"Don't market comb honey without first scraping all propolis off sections, and be very particular about grading and casing, for nothing looks worse than nice honey put on the market in an untidy shape."

Producing Comb Honey. — In the *Domestic Bee-keeper* Mr. F. S. Harter gives his methods of working sections. He uses a wooden cover over the sections instead of the familiar calico quilt, and he says: "The secret of getting nice clean section honey is to have just the right depth of supers, and that depth is just deep enough so that the top of the sections will be just 5-16ths of an inch under the super above, or the inner cover, as the case may be." By thus allowing the bees this 5-16-inch space all over the tops of sections, Mr. Harter claims that the bees do not daub them up with propolis as they do when quilts are used. These "inner covers," as he terms them, are kept on winter and summer, and for the winter he places sheets of "building paper" (which I take it is a thick brown paper) over them. The "inner covers" are not all in one piece, and cracks are left between the boards to allow air to get through, moisture from the bees also gets through the cracks, and is absorbed by the paper, thus keeping the bees dry.

Swarming.—The control of swarming is as much a problem in the States as here. Mr. Walter J. Bailey, in the *Domestic Bee-keeper*, claims to control it by giving plenty of ventilation. His method is to have a flap entrance, full width of the hive. Before nailing the hive body together a piece 5ins. wide is cut from the bottom edge of the board for the front of the hive. This is afterwards fastened in place by two small hinges at the top edge.

When the bees begin to show signs of swarming the flap is lifted up and turned back against the hive, giving an entrance the full width of hive, and 5ins. high. With this and plenty of super room he claims that not one colony in ten will swarm. When the flap is lowered again for winter it is secured in place by a couple of buttons. I am afraid making the entrance in our double-walled hives would present some difficulty.

On this question of swarm control, Mr. Ira Bartlett, in the same issue, says he is "satisfied that it is not a matter to be easily settled, and can never be brought down to set rules that will work equally well in all locations, and with all sorts of honey flows." The same may be said of all operations connected with bee-keeping. Hard and fast rules can be set for very little of the work, and to my mind this is one of the charms of bee-keeping. There is always something fresh cropping up, and always opportunity for the bee-keeper to exercise his ingenuity and originality, and to try out different methods of managing the bees. No two seasons are alike, and probably what is successful one year will be more or less of a failure another, and a method of working that will give good results in one locality will be of no use in another only a few miles away.

Gleanings has not only changed from a fortnightly to a monthly, but the front cover is now printed in colours. The illustration on the cover of the May number, just to hand, is a charming picture, entitled "All a-Bloom and Bees a-Buzzing," depicting apple trees in full bloom—full in the fullest sense of the word—and underneath a couple of bee hives.

On the lighter side the cartoons by "Don," giving the experiences of the "Backlot Buzzer" are clever, and the text very much to the point. In the last issue, for instance, "Jimmy Peachbud says in all his experience, and he has handled hybrids, blacks, yellow jackets, and hornets, that he never yet got stung as bad as he did the time he traded a hive of Italians for a poodle pup."

These cartoons have been a feature for some time, but this year a new one has been introduced in "Mother Bee Nursery Rhymes," by M. G. P. (Mother Goose Plagiarised). These are also illustrated. The following is a good example of the rhymes:—

"Hey, diddie dummy, the comb, and the honey,
The Bees swarmed out of the hive;
The Bee-keeper groaned, to see such sport,
And the Queen he caught alive."

LEGISLATION.

L.—Legislation provides security and aid for most national undertakings.
E.—Engenders friction, but opens the path to progress by improvement.
G.—Generally assists interest and education financially.
I.—Implies national recognition.
S.—Should support all national assets.
L.—Leaves out "Bee-keeping."
A.—Allows bee-keepers no security.
T.—Takes little advantage of expert advice.
I.—Introduces unity of action.
O.—Offers prospective prosperity.
N.—Needs united energy to be secured.

A. H. Hamshar.

KENT BEE-KEEPERS' ASSOCIATION.

DEMONSTRATION AT BEARSTEAD.

Under the auspices of the Kent Bee-Keepers' Association (Midland Division), and by the kind invitation of Mr. Watts, many of the members spent a pleasant afternoon at Bearstead on Saturday, June 2.

A hive or two in a garden is no unfamiliar sight, but in the Bearstead apiary, where during the next few weeks fifty or sixty small stocks will be produced for distribution among the shareholders in the Association Re-Stocking Scheme, the sight of the long row of hives, stretching along two sides of a large field, offers to most visitors a new experience.

Two types of hives were exhibited, and the uses of the parts explained. A simple way of cleansing and disinfecting a hive was shown, a formaline solution being applied alternately by syringe and scrubbing brush.

A travelling-box in which the nuclei will be dispatched was next brought out. Particular attention was called to the fact that this travelling-box could be used as a temporary hive, if at the time the stock was delivered the weather was unfavourable for the removal of the bees into their permanent home. To use the box so, it would be essential:—

I. To entirely cover the top with warm quilts, and over them place a perfectly waterproof covering.

II.—To set the box alongside the hive prepared for the bees.

III. To remove the piece of perforated zinc closing the entrance.

It is advisable to perform the operations in the order given, as if the amateur began with No. III. he might omit No. I. or II.

The lecturer considered that the wind was too cold for much bee manipulation, but a small stock of Italian bees

was available, and after the audience had been assured that there was no danger, a large circle was formed round the hive.

"Avoid crushing bees," "Don't jar the hive," etc., said the demonstrator, but better than all precept was the sight of the deliberate and careful handling of the frames of comb, as they were first freed, and then lifted from the hive. As interest grew and fears were forgotten, the watchers closed in towards the hive. The queen was found and shown, and many things, commonplace to the experienced bee-keeper, but full of mystery to the uninitiated, were examined.

A hearty vote of thanks to Mr. Watts for a pleasant and instructive demonstration closed the proceedings. The kindness of Mrs. Watts in providing tea was much appreciated, and the long walk home after the preparatory rest and refreshment, rounded off the afternoon's enjoyment.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BEE-KEEPING IN NEW ZEALAND.

[9450] I presume the address on the above subject delivered by Mr. F. C. Hodgson before the Kent Bee-keepers' Association is correctly reported in your issue of February 22 last, in which case I would like to correct two or three errors that are rather misleading. Mr. Hodgson, in referring to our Apiaries Act, said, "the bee-keepers themselves forced the formation and passage of this Act," thus depriving the Government of all credit of voluntary or sympathetic action in the matter. So far from this being the case, I can inform the gentleman that on the very first day I entered on my duties for the Government the then Secretary of Agriculture suggested an Apiaries Act in the following words: "I suppose the first matter that will need attention is an Apiaries Act." My reply was: "Not until I have visited all the chief bee-keeping centres, prepared bee-keepers for what is coming, and formed bee-keepers' associations to help me to meet any opposition that may be forthcoming." The associations were established, they formally passed resolutions in favour of legislation, we encountered no opposition, and an Act was passed the following Session of 1906—not the one you published—so that it is incorrect to say the Government was "forced."

Mr. Hodgson speaks of good honey yields from orchards, and mentions one orchard in the Hawkes Bay district containing 90 miles of peach trees. I know it well, the celebrated "Frimly" Orchard, and if my memory serves me a gentleman named Hodgson had charge of the canning department of the orchard. In all my experience in bee-keeping in this country I never but once had the opportunity of tasting pure fruit blossom honey, or any containing a large percentage of same, and that happened to be gathered from the "Frimly" peach orchard in an exceptional season. Mr. Hodgson should know that it is exceptional in New Zealand to get good bee weather during fruit blossom, and what little nectar the bees may gather at that time is consumed as food immediately.

The exceptional case mentioned above occurred in our spring of 1907, when Mr. A. Lowe, of Hastings, secretary of the Hawkes Bay Bee-keepers' Association (whom Mr. Hodgson may remember), established a small apiary alongside the Frimly Orchard. I was on my rounds just as the peach blossoms were falling, and assisted Mr. Lowe to extract—he obtained 2 or 3 cwt. of pure peach honey. "What was it like?" I was greatly disappointed; it was wretched stuff compared with clover honey. I was frequently in the Hawkes Bay districts and other centres of fruit growing, and never knew but this one case of surplus fruit blossom honey; in fact, bee food at that time of the season is mostly very scant. Clover is what we depend upon.

With regard to the statistics given for 1911, Mr. Hodgson makes it appear that the £5,000 worth of honey exported that year was "roughly one-sixth of our total production," when the Cabinet Minister, in opening the annual conference of bee-keepers shortly after the close of that season, gave the official total value of the output as £50,000, based upon an all-round figure of 5d. per lb. The season before last, although many bee-keepers had gone to the front, the official figures were 1,250 tons as the output, which at same valuation approaches £60,000. I don't know whether it is a correct way of putting it to say "the average number of colonies

possessed by each bee-keeper to be six, averaging a yield of 15 lbs. of honey per hive," when few of our commercial bee-keepers own less than 100 colonies, and from that up to and over 1,000. As much as 32 tons has been raised by one apiarist in one season, and the season before the one just closed 11 tons were secured from 100 colonies.

Regarding the motor spirit (not kerosene) case hives which Mr. Hodgson says are "far from weatherproof," I send you with this photos of those I introduced and figured in Bulletin 18, by which you will see they can be made perfectly weatherproof with little trouble.—J. HOPKINS, Auckland, New Zealand.

LYSOL AND SALT FOR "ISLE OF WIGHT" DISEASE.

[9451] It may interest you to hear that I cured my bees last summer of "Isle of Wight" disease in its early stages by washing the alighting board of the hive, and sprinkling freely round it a mixture of Lysol, salt and water (1 teaspoonful Lysol to 1 pint water and a

Eat less Bread

handful of salt), and placing a saucer of golden syrup with a few drops of Lysol in it near the hive.

I washed the alighting board every other evening for about three weeks, and the "crawling" and "dropping" symptoms quite disappeared at the end of that period. The bees have stood the winter *well*. I have an unusually full hive, and expect a swarm soon.—HILDA R. DOGGETT.

EARLY SWARM.

[9452] As May 11 appears to be the earliest date in your list of early swarms this season, you may be interested to know that on May 1 I spent a few hours with a friend in Crowborough, Sussex, and saw a newly hived swarm which had come out on the previous day. I went down again for a few days on May 11, and we added two frames to the original six, the bees being quite ready for them.

My own bees did not swarm early, but they appeared to have put in a lot of useful work in spite of the very late arrival of spring weather.

In "A Dorset Yarn," reference is made to crimson pollen. I have noticed a large amount of this being brought in, both here and in Sussex. Sometimes the bees look as though they were smeared with red paint. Do you know where they get it? As it is so plentiful, and apparently widely distributed, it should be from some common flower. — E. WILLIAM CHAPLIN.

CARNIOLANS AND "ISLE OF WIGHT" DISEASE.

[9453] I should be very much obliged if you would allow me a small space in your valuable paper to relate my two years' experience with Carniolan bees.

I have kept bees for four years now, starting with two stocks of English Blacks which gave very considerable results, and then I invested in a Carniolan stock, which I bought from one of your business advertisers.

This stock swarmed three times, the first swarm yielding 60 lbs. of honey, the second filled two racks of sections, and the third made enough honey to carry it well through the winter. From the parent stock I took 60 lbs., the same amount as from the first swarm. I kept my five stocks together on one lawn.

During June the two English stocks developed "Isle of Wight" disease, but the Carniolans survived and yielded the quantity of honey which I have already stated. This fact proves that pure-bred Carniolans are more or less immune from this devastating disease.

I have now nine stocks of Carniolans, all in a perfectly healthy condition, and working well in the supers which I put on at the beginning of May.—C. B. PARDOE.

BEE-KEEPERS IN THE ARMY.

We have received the following letter from Mr. R. Litman, secretary of the Castle Cary and District Branch of the Somerset B.K.A. No doubt Mr. Litman would also be pleased to meet, if possible, any bee-keeper near him who is still a civilian. His address is F. Sec., H Lines, 3, Tent, R.F.C., South Farnborough Hants.

[9454] I have perforce to join His Majesty's Forces, and as you will see I have joined the R.F.C. Should there be by chance any bee-keeper in the camp of the R.F.C. here, and he would make himself known to me, I should be most happy to meet them to have a mutual chat. The "Isle of Wight" disease carried off all my stock (21) this last winter, also most of the bees in my district, and I fear the crop of honey in my district will consequently be very small. But I trust the

war will soon be over, so that we shall be able to get back to our homes and get to work combating the disease and once again build up our apiaries. Wishing you and fellow bee-keepers every success in 1917.—R. LITMAN, Expert Second Class, South Street, Castle Cary, Somerset.

DEALING WITH SWARMS.

In response to the invitation for readers' opinions on this subject we have received the following letters:—

[9455] Since you invite suggestions (No. 9448 in last week's JOURNAL), I would say that as the bees were so agitated it would have been better to have left the swarm in the skep (in this case the lady's dress-basket) until the evening of May 2 or 3 and then hived them into their permanent hive, by which time they would have cooled down, I am assuming that there was no objectionable smell in the permanent hive, *e.g.*, from carbolic or anything of that sort.

Unless the new hive was objectionable in any way, I do not think there is much doubt the first swarm had previously located a place to go to, and hence its loss, and it is difficult to know what to do in such circumstances, unless the queen has been previously clipped or captured when swarming. It was lucky the second and third swarm did not issue at the same time as the first one.

By the way, I do not think the ordinary hive entrance is anything like large enough for the swarming season, and if the hive with the above double swarm had been left propped up, say, one inch, instead of lowered, it would have done no harm, rain or no rain.—F. W. MOORE.

[9456] W. T. does not say [9448] what he did with the two stocks from which the swarms issued, but as he hived the swarm finally on seventeen frames, I presume he made a nucleus of three frames. On the swarms joining, I would have at once made a nucleus of three or four frames for the two parent colonies—then hived the swarm on the stand of the strongest colony on the remaining brood frames from both colonies, putting those with hatching brood, say, ten frames on top, then excluder, and the remaining seven or six frames with eggs and larvæ in bottom of brood chamber, filling same up with three or four frames of foundation—then on top of upper storey I would have placed a super of eight drawn-out shallow combs, leaving the queens to fight out superiority, and with plenty of ventilation at bottom, feel sure all would have gone well.—O. PUCK, Chingford.

[9457] "W. T.'s" experiences with his swarms [9448] were certainly trying. Had he been using some strong disinfectant in the hives which the bees refused to stay in?

As regards the swarm that disappeared, I venture to guess that the bees entered the other hives. It is scarcely likely that they would have made off as early as 7 a.m. (6 a.m. real time, I imagine), nor is it easy to understand why the swarms from two moderately strong stocks should on uniting form so huge a mass as to require a lady's dress basket to accommodate them. The fact, too, that your correspondent had to supply seventeen standard frames to the new colony seems to support my hypothesis.—A. C. WILLIAMS, 8, Corrennie Gardens, Edinburgh.

[9458] In taking up my BRITISH BEE JOURNAL for this week I notice on page 176 (9448) your correspondent having swarming troubles which I have been much interested in. I have not much time to spare for writing at this time of the year, as I am here and there and all over at everybody's call at this period of the year. I scarcely have time to read my JOURNAL at times, and I am as proud of it to-day as I was thirty years ago, but as I am an old hand in the craft, and the Editors are asking readers to state their views and what they would have done under such circumstances as your correspondent was placed in, I give mine. Now it is very difficult at times to know what to do, especially by a beginner, but under the circumstances our friend was placed under I think that he did fairly well. What your correspondent ought to have done when he had hived the first swarm and a second swarm came off, as soon as he had got the first swarm hived he should have picked up the first swarm and carried it away into a quiet corner of the garden, as in ninety-nine cases out of the hundred when two swarms come off at about the same time they are sure to unite, and the few flying bees that were left behind would have united with the second swarm. Now as to the procedure of hiving. I should not have hived, or attempted to hive, such a large swarm in the manner your correspondent did. What he ought to have done was to have hived the swarm on the top of the bars, which I always do, and I have hived hundreds of swarms in my time, and I have never had a failure yet under this method. I put in the frames according to the size of swarm, space them a little to allow the bees room to fall amongst them, and throw the quilt roughly over the mass on the top of frames, leaving one uncovered so as to allow the

flying bees free access to the bars, then place the roof of the hive on cross cornered a little so as to allow the flying bees to join the swarm, then at night, when all is quiet, place the quilt permanently on and place the roof properly in its place, and I feel sure if those who have had the same hiving troubles will give this a trial they will be more than pleased with the results, which I feel sure that our esteemed Editors will only be too pleased to publish. —E. J. THOMPSON, The Apiary, Cowdall.

PRESS CUTTING.

BEE-KEEPING AND THE OWNERSHIP OF BEES.

The attention of those who are interested in the maintenance of our supply of food has recently been directed to the keeping of bees and the increase of our stores of honey. We are apt to forget that until the sixteenth century the demand for sugar was wholly satisfied by honey, which was also the material for the popular beverages, mead, methyglin and hydromel. The hives of American farmers bring them a substantial profit, but bee-keeping, though one of the most ancient of our industries, has of late years been somewhat neglected by Englishmen, who prefer to import their sweets from abroad. The question arises whether the ownership of bees is sufficiently protected by our law. Our case law seems to make very little reference to them beyond a general statement that they may be the subject of larceny. But if we go back to the Roman Digest we find a separate paragraph devoted to the property in bees, which tells us in stately language that bees are wild by nature, and if they swarm upon your tree you have, until you have hived them, no more property than you have in the birds which build their nests there. Anyone, too, is at liberty to take the honeycomb the bees may have made. But, of course, if, before it is taken, you see anyone entering upon your land you have a right to stop him. The Roman jurist adds—and his statement is adopted by Scottish text writers such as Erskine and Stair—that a swarm which has flown from your hive is still considered yours as long as it is in your sight and may easily be pursued, otherwise it becomes the property of the first person who takes it. American cases accepting this doctrine have held that the owner of a swarm of bees may pursue his property upon the land of another and retake it, even although he may be liable for trespass in so doing. But delicate questions of this description are not suited for the interests of commerce. Bee-keeping, if it is to be carried on with a good profit, requires not merely energy, perseverance, and capital, but well-defined rules with regard to the ownership and protection of bees. These rules would naturally be provided by the Legislature. Section 21 of the Larceny Act, 1861, which imposes penalties upon anyone who shall steal any bird, beast, or other animal ordinarily kept in a state of confinement, is of doubtful application, and, in any case, the penal laws relating to the ownership of bees are worthy of more attention than they have hitherto received. From the *Solicitors' Journal*.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

MISS KENDALL (Lincs.).—*Price of Honey.*—First quality light extracted honey will no doubt command a good price this year; probably from 1s. 6d. to 2s per 1lb. jar, and sections up to 2s. or more each, retail price. Wholesale, probably 100s to 105s. per cwt., and sections 15s. to 18s. per dozen. In the present circumstances it is difficult to say, possibly these prices may be exceeded, and probably will be for heather honey.

J. C. BARNSLEY (Atherstone).—*Using Swarm Catcher.*—This appliance should only be used *when there is a laying queen in the hive*. By putting it on *after* the first swarm had issued you prevented the young queen from flying out to mate. Get the "British Bee-keepers' Guide Book," post free from this office for 1s. 8½d. If the water is protected from contamination by flying bees it need only be renewed as it is used.

"C. C." (Clapham).—*Lessons on Bee-keeping.*—We are sorry we do not know of such a place. If any of our readers know where a widow could obtain instruction in bee-keeping in return for household work or looking after poultry, or could earn money fruit-picking and will write to us, we will put them in communication with "C. C."

H. B. HART (Wimbledon).—*Disinfecting Hive.*—Use Bacterol, or Izal, and water. We do not know of any swarms for sale except those advertised in our prepaid advertisement columns.

F. C. CAFF (Friern).—*Identity of Insects.*—The bees you sent were female and male of *Osmia bicolor*, who make their nests of mud and sticks. They are sometimes called Mason Bees.

"MEL DEPURATUM" (Lancs.).—*Sterilising Honey.*—No doubt sterilising honey at a temperature of 360 deg. Fahr. would destroy the spores of Foul Brood, but it would possibly destroy the honey too. You had better try an experiment on a small scale to see the effect on the honey.

"WILD BEES" (Hunts.). "British Bees," by W. E. Shuckard, would probably suit you. It is out of print, but you could probably get a secondhand copy for 4s. or 5.

H. W. STRATTON (Birmingham).—The bees are crossed with Italians and appear healthy.

Honey Sample.

G. F. ORMEROD (Yorks.).—The honey is very thin, but does not appear to be adulterated. We should not care to use foreign honey for feeding if it could possibly be avoided. If you use it boil for ten or fifteen minutes, adding a little water, say, nearly quarter pint to 2lbs. of honey, when lukewarm medicate it.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1d. per word as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WANTED, for patients of Red Cross Hospital, good Swarm (not nucleus) healthy British Bees. Particulars to MISS M. COATES, Broad Heath, Presteigne. g 14

EXTRACTOR, ungeared, splendid condition, a sacrifice, 17s. 6d.—SIMMONDS, 181, Fordwych-road, Cricklewood, London, N.W. 2. g 15

FOR SALE, splendid Stock British Blacks, on ten combs, 1917 queen, working super; also two May Swarms, one on ten combs, one on eight, guaranteed healthy, both 1916 queens. What offers?—W. E. BLACK, 9, Lawn-road, Uxbridge, Middlesex. g 16

WANTED, at once, Swarms, Italian or Dutch; will exchange a guinea Extractor, not geared, for a Swarm.—NICHOLSON, 136, Station-road, Westcliff. g 17

9-FRAME Nuclei, 1917 fertile queen, guaranteed healthy, 25s. 6d.—W. WOODS, Normandy, Guildford. g 18

FOR SALE, W.B.C. Hive, nearly new; Crate Shallows, Crate Sections with glass; Porter Escape Board, Wire Excluder, Feeding Bottle; Cane Bound Skep, Smoker, forty Sections, or exchange Gent's Bicycle.—WESTCOTT, 11, Cassiobury-road, Weymouth. g 19

WANTED, before September, temporary post as Companion, Chauffeuse, Secretary, or Governess, by lady fond of bees; fluent French, acquired in Paris, R.A.C. certificate.—BOX M., BRITISH BEE JOURNAL Office, 23, Bedford-street, Strand, W.C. 2. g 20

FOR SALE, Stock of Bees.—For particulars, BROOKS, Lincoln-road, Winthorpe, Newark-on-Trent. g 30

HEALTHY, prolific 1917 British and Hybrid Queens, latter swarm raised, 5s. 3d.—HOLLINGSWORTH, Heanor. g 22

WANTED, immediately, good Stock or Swarms of Dutch or English Black Bees (Dutch preferred), guaranteed sound.—CUTHBERT, Bingfield, Corbridge, Northumberland. g 23

TWO new Bar Frame Hives for sale, standard size, with fittings, cheap.—Particulars, PYNE, 18, Albert-road, Hounslow. g 21

WANTED, Hybrid or any Swarms; state price and when ready.—Rectory, Llangammarch Wells. g 24

WANTED, good Swarm of Bees, from healthy stock.—HIGGS, Northrode, Congleton, Cheshire. g 25

FOUR full Stocks Italians, headed by young queens direct from Italy this year, £4 10s. each.—VINCENT, 132, Croydon-road, Anerley, S.E. g 26

SURPLUS Stocks of Bees, Hybrids; strong, healthy cross Golden English and Black, on six frames, 42s.; splendid workers.—L. TAYLOR, Exeter-street, Holloway Head, Birmingham. g 31

SHALLOW Combs, "J. H. H." frames, 15½in. top bar, 8d. each, free from disease.—MARSHALL, 10, Brooklyn-street, Hull. g 27

FOR dispatch during June, ready for supers, strong healthy Stocks of Italians, on eight frames, with young queens, 40s. each; 100 Shallow Frames of drawn-out combs, perfectly clean, 5s. per rack of eight inclusive. Ten Cottage Hives, fitted with frames, 10s. each; ten C.D.B. Hives, 12s. 6d. each; all by Steele and Brodie, and all equal to new.—AVERY, Deverill, Warminster. g 28

FOR SALE, Observatory Hive, eleven frames, glass on three sides and top; Section Rack, glass four sides and top; two Shallow Frame Boxes, glass all round, the whole made of solid mahogany, celluloid quilts and excluder, 60s., or nearest; original price £8; good as new.—W. J. GIBBS, 84, Gillygate, York. g 32

"ISLE OF WIGHT" DISEASE.—Colonies of bees affected with "Isle of Wight" disease wanted for scientific purposes. Write, stating the number of frames of comb the bees cover, and price required to, C. HANSLOPE BOCOCK, F.R.M.S., The Elms, Ashley, Newmarket. g 3

WANTED, two Swarms of healthy Bees.—Price to J. CORNER, Cliviger, Burnley. g 4

SWARMS, Stocks, or Nuclei wanted; any quantity, healthy; reasonable price.—TOM COX, 116, Addison Road, King's Heath, Birmingham. g 7

SIX strong Hives, zinc roofs, 15s. each; six, with wood roofs, 12s. 6d. each; fifty Racks of 24 sections, fitted with tin dividers, and full sheets of foundation, 4s. 6d. each.—"APPLIANCES," 23, Bedford-street, Strand, W.C. 2.

FOR SALE, good Field Spaniel Bitch, broken to gun and retrieve, good yard dog, 25s., to immediate purchaser, or will exchange for anything useful; not livestock.—W. HERROD-HEMPSALL, Old Bedford-road, Luton. e 26

BUSINESS ADVERTISEMENTS.

CHOICE PROLIFIC ENGLISH QUEENS, 1917, from non-swarming stocks, tested and selected, 6s. each; safe arrival guaranteed (12th year). Illustrated work, "How to Prevent Swarming," with many photos of bees and their work, 7d. All post free.—WILKES, Four Oaks, Birmingham. a 4

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

LECTURES AT GOLDER'S HILL PARK.

Free popular lectures and demonstrations will be given at the Association's Apiary in the London County Council's Park, Golder's Hill, London, N. (nearest Station, Golder's Green Tube), on June 22, 29, and July 6 and 13, at four o'clock p.m.

On the same dates, at 6 p.m., a special course of lectures will be given, for which a small fee is charged.

W. HERROD-HEMPSALL,
Secretary.

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Cpl. J. C. Powell, Radwell, Baldock, Herts.—11th Batt. Norfolk Regt.

Spr. W. R. Brown, Adstone, Towcester.—35th Field Co., R.E., B.E.F., France.

DEALING WITH SWARMS.

We regret that a printer's error occurred in Mr. F. W. Moore's letter—9455—on this subject in our last issue. The swarm referred to came out on May 26, but in the sixth line of his letter Mr. Moore is said to advise leaving the swarm "until the evening of May 2 or 3," which is obviously incorrect, and should read "until the evening of the 2nd or 3rd day."

A DORSET YARN.

This last week the bees have had a harvest of that small yellow member of the Cruciferæ family called Charlock in Dorset; the little foragers come home, many of them, yellow all over with the pollen from the flowers. This must yield a lot of nectar, and I am thinking that the seeds would be rich in oil if it could be harvested and crushed, like rape is harvested in some parts. In many large Dorset fields this is very plentiful among the corn. Last year, close to Wimborne, I saw two girls pulling it all up, but they only managed a piece across one end of the field, as the corn grew so fast it was soon over the top of the yellow flower. It would have wanted forty to have gone all over it before seeding. The flowers are very short lived, they seem to close up very soon after fertilisation, but others follow on till, when all the seeds are swelling below them, it ceases to flower, and puts all its energy into the ripening of the seeds, to perpetuate its species for another season.

The fields of clover and rye grasses have fallen before the cutter this last week. In one field on the Cranborne road four cutters were following each other, laying down the lovely clover; still the pastures are full of white Dutch and hop, with large patches of the lotus clover and the red perennial field variety, that is continuous in many pastures.

Down at South Lytchet Manor the false acacia (or robinia, to be correct) is in full blossom, and it is one glad hum of peace and plenty, and the bees are foraging for all they are worth. The long pendulous racemes of flower are very beautiful. This is one of the plants that alters its character at night: the leaves are arranged in pairs on a midrib, they stand out horizontally by day, but at night they all hang downwards. They have a movable joint where it joins the midrib. To go beneath them at night and see the great difference to what it is by day is like enchantment, so great is the change. But I am digressing, I must yarn about bees and not magic, or I shall be pulled up by the Editors.

A great deal of honey must be taken from this plant. One just outside Broadstone station is a continual roar to-day, June 16, each time we have been over to the station with the strawberries. Not much time to write now, start at 4 a.m., work till dark, and before bath and bed I spin this simple yarn of the little communists who all pull together for the enrichment of all the colony.

Swarming has been continuous this week. I wish I had more time to give to them, as I lose them. Last Monday six came out within an hour, two got together, and then went back to the hive where the largest lot came from; they hung round the hive all night, the dead bees had blocked the entrance, and the whole front of the hive was piled up with dead (I lift the front of all movable hives to give them free passage in summer), but they

could not get in till I ran my fingers along the front and pulled off both living and dead till the entrance was free; they are still hanging about till the eighth day (which is to-morrow), as soon as the church bells ring they will begin "the song of swarming time," and they will go through the whole business again; when one has a glass covering over the sections one can see the haste with which they hurry backwards and forwards over the sections; it seems "the maddest, merriest time," to quote the little girl that was to be the Queen of the May. I notice that by taking off the cover, and lifting the dark covering material off the glass, so many rush up to the light and have their mad gambols above the sections; not nearly so many can get out before the swarm has moved off, which makes it better for the work in the home colony, and the three racks which are nearly complete. What huge swarms some of them are this year! It looks as if Nature is going to make good the ravages of disease; and once more we shall have a land of milk and honey.—J. J. KETTLE.

HONEY RECIPES.

The *Guardian*, of June 7, contains a very instructive article on "War-Time Cookery," by Jessie J. Williams, in which the writer gives some useful advice and recipes for using honey in cookery, some of which by the kind permission of the *Guardian* we print for the benefit of our readers. We are pleased to notice that Miss Williams recognises the work of the British Bee-keepers' Association, for she says of bee-keeping: "The industry in Britain, however, was much neglected until the practical and educative work of the British Bee-keepers' Association caused a steady increase in the supply of native honey."

The following comparison of honey with sugar should be noted for future reference:—

When honey is to be substituted for common sugar it is desirable to know not only how it compares in sweetness, but also how much allowance must be made for the water it contains. Saying that a cupful of good honey measures half a pint, it should weigh about 12ozs. Of these only nine or ten are sugar. A cupful of honey, therefore, corresponds to a little more than a cupful of cane-sugar. Besides the sugar it contains there is about one-fifth of a cupful of water in a cupful of honey, therefore, in making cakes experiment proves that one may substitute honey for sugar, cupful for cupful, and for each cup of honey use one-fifth of a cupful less of milk or other liquid which the recipe gives. If this rule is kept in mind cooks will need no special honey recipes when making cakes, but with slight calculation they may use ordinary directions, so modified that honey may be employed in place of sugar. Some old cookery books contain elaborate precautions when using honey thus, which are not really needed in these days when good, pure honey is obtainable; but one useful fact worth remembering may be gleaned from these works. It is that any dough into the composition of which honey enters may be more easily kneaded if allowed to stand first for several days. Innumerable uses may be found for this sweetener. Bread and cakes are excellent with honey; fruits may be preserved in it; it may be used for sweetening lemonade and other summer drinks; as a substitute for sugar in baking apples it is delicious; and where butter is of doubtful taste, or deficient in cream, a little honey of mild flavour is a great improvement if thoroughly worked in. The following recipes may all be recommended as being good ways of using this form of sweetening:—

BRAN BREAD.

Ingredients—1 cupful of wholemeal, 1 cupful of bran, ½ cupful of honey, 1 cupful of sour milk, ½ cupful of stoned raisins, 1 teaspoonful of soda, ¼ teaspoonful of salt. Method—Mix together all dry ingredients and then add the honey and milk. when thoroughly mixed bake in a moderate oven for about an hour.

HONEY AND NUT CAKES.

Ingredients—½ cupful of honey, 1 cupful of flour, 2 cupfuls of bran, 1 tablespoonful of warmed butter, 1½ cupfuls of milk, ¾ cupful of finely-chopped walnuts, ¼ teaspoonful of salt, rather less than ½ teaspoonful of soda. Method—Mix the flour, bran, soda and salt, and then add the other ingredients. Put into small tins and bake for about half an hour in a quick oven. These quantities should make sixteen cakes, each of which will, roughly speaking, represent 100 calories and contain 2 grammes of protein.

APPLES IN HONEY SYRUP.

Have about 1lb. of apples peeled, cored, and cut into quarters, or, if small fruit, they may be left whole after peeling and coring. Make a syrup of one cupful of honey, ½ cupful of mild vinegar, and ½ teaspoonful of cinnamon or ground cloves. Cook the apples—a few at a time—in the syrup until they are transparent, lifting them as they become clear on to a dish. When all are cooked pour the syrup that remains over the fruit.

SALAD DRESSING.

Ingredients—The yolks of two eggs, 1 tablespoonful of honey, 1 tablespoonful of

lemon-juice, 1 tablespoonful of butter, 1 teaspoonful each of made mustard and salt, ½ cupful of cream, pepper to taste. Method—Make the cream hot in a double boiler. Meanwhile beat the eggs, and add to them the honey, lemon-juice, butter and seasoning; pour the cream very slowly over, beating vigorously all the time. Put the mixture into the double boiler, and cook very gently until it thickens. This is excellent for fruit as well as vegetable salads."

Many of our readers are, we feel sure, not only interested in the use of honey in cooking, but also in other forms of economical cookery, and to such we can recommend "Casserole Dishes," written by Miss Jessie J. Williams, and published by the *Guardian*, 29, King Street, Covent Garden, W.C.2. The price is 1½d. each, post free, or 6 copies, post free, for 6d., or 12 copies, post free, for 10d.

Miss Williams is a thoroughly practical cook, and tests all recipes herself before they are published, many of them being original. Casserole cooking, we may say, means that the dish being prepared is served in the vessel in which it is cooked, the vessel being made of fireproof earthenware.

A WONDERFUL CITY.

THE LIFE STORY OF THE HONEY BEE.

By Oliver G. Pike, F.Z.S., F.R.P.S.

(*Continued from p.* 176.)

Now, let us watch the bees which are returning from the fields. They go straight to the upper part of the hive, and some will instantly give all the honey they have to the young bees which have not yet been outside the hives, and these take the honey to the cells. Others will go direct to the cells, and then place their heads in, we see them slowly moving their long tongues round the bases of the cells. As we watch we see a bright liquid slowly forming at the tip of the tongue, and when a tiny drop of honey has been deposited the indefatigable Worker turns and goes straight back to the open fields where the flowers and the songs of countless birds, the buzz of insects' wings, and the sunshine make the music of the summer day. The nectar as found in the flowers is a very different thing from the honey as we know it. When taken by the bee it is sucked up with its tongue, then it undergoes a chemical change inside the bee's body, returning through the tongue, and is placed in the cells. When sealed over like this it will keep for a very long time. In the winter months the bees use that nearest to the cluster, gradually working out to that at the top of the hive, or that on the outside combs. If there should not be enough in the hive to supply their wants then the worker-bees will starve, but what little there is left will be passed to the few faithful attendants of the Queen; they will eke this out to their royal mother until the last drop is consumed, and she is always the last to die. They have a lingering hope that they may be able to get another supply of honey before their Queen dies, and so they do their utmost to preserve their mother to the last, for they know that without her the whole City must perish. They do not give up hope of more food arriving, and they strive hard to keep her alive until the last drop of honey is consumed. On examining a hive which has been starved we will find the Queen in the centre of the cluster, with all her attendants round her, most of them facing her, and numbers of bees in the surrounding cells with their heads plunged to the base, searching with their last strength to find more food for their sovereign. I once looked upon such a scene, and it was the most pathetic thing I ever saw in connection with the hive; all the bees were dead, yet it was perfectly clear how they had striven to preserve their Queen, and gradually died off one by one until all the food was exhausted.

CHAPTER XII.

THE MARRIAGE IN THE SKY.

There is something wonderfully romantic in the Queen Bee's wedding. All her life she is shut up in the darkness of the hive; all her days with the exception of one or two hours in the time of swarming are spent in the shade of the walls of the City. It is not for her to live in the sunshine, to gather in nectar from some of Nature's fairest treasures—the flowers. She lives, breathes, and has her being, surrounded by Workers in the close atmophere of the hive, in a heat so intense that it sometimes melts the wax-walls, and makes them drop from their supports on the roof. Her lot is cast in the gloom of darkness, so unlike the life of her more humble sisters, who dwell for a part of their brief existence in the pure blue dome of Heaven, where the birds sing their best songs, and where the fragrance of the clover makes sweet the summer lanes and meadows.

One happy summer morning, when the brightness of the outer sunshine sends in rays of light at the hive entrance, and when all the world of flowers and green grass is silent and still; when from the hedgerows and the dusty roads, heat waves are rising, and the distant trees are half lost in the blue mist of dew and sunshine, and even the butterflies seem lazy, just sunning their wings as they sit on the garden flowers, then it is that the

young Queen flies out. At first she hesitates, as though afraid of the brightness; she runs about the alighting board of her home, and returns to the dark combs, and takes a taste of honey; then again goes back to the entrance, looks upon the flowery expanse before her, and launches out into the summer air.

Countless insects are making a merry hum over the tall hedge-parsley by the hedgerows. A thousand thousand glistening wings carry the Workers to and from the hives. The flowers are gay with the magic touch of summer's fairest colours, and millions of dewdrops deck the bending grasses. As the sun catches these they are first transformed into a vast array of apparently brightest gems, then quickly they go, like a beautiful tale that is told—but not forgotten. There is not much in a simple little dew-drop, but those who love the green grass, and the music of Nature, as I must always love them, even a dewdrop, although its life is short and fleeting, leaves behind it something to think about. The flowers, too, have collected the jewels of the morning, and are bright in their dress of dew and sunshine. A skylark makes glad the blue of Heaven, and sings, as it were, at the threshold of the skies. His simple, homely song makes the earth glad, and a hundred warblers below answer his song of love, and make a chorus that cannot be surpassed the world over. Give me our English homeland for beauty; I feel that I must live among the perfume of the flowers, the health-giving sunshine, and the music of the birds. Our summer is so short, the days pass by so quickly, and winter seems so long, that I like to make the most of these winsome hours while they linger with us.

The Queen leaves the hive; she describes a small circle round the home she has left; all the time her head is pointed towards it. Every tiny landmark is noted, a dandelion growing there, a piece of hedge-parsley here, a white dead nettle over yonder; then the shape of the hive, its position in connection with the surrounding hives; its distance from the old fence—all are carefully remembered. She returns to the City, goes inside and rests. The greatness of the outside world may have awed her, but presently she is out again, a greater flight is taken, larger circles are described around her home, and, having thoroughly located it, she goes back once more to the cells of honey.

As the morning sky assumes a clearer blue, and the cuckoo gives out his loudest notes; when the blackbird from the holly bush throws forth his liquid rambling music, like a skilled musician who knows his notes cannot be surpassed; notes in the sweetness of which all the glory of summer seems to speak; when all the earth is giving back to the sky something of the beauty it has received from Heaven, then it is that the young Queen launches out into that great expanse of sunshine for her wedding excursion.

The call goes through the whole apiary "A Queen is out!" The great over-gorged indolent Drones, some basking in the hive, others taking their morning flight, still more sunning themselves on grass stem or flower, others feeding at the open vats of spring's sweetest honey, hear the call.

Everything is at once deserted. The slumberous enjoyment of sunning their wings in the heat, the happiness of taking their fill from the cells of gathered sunshine are all given up.

(To be continued.)

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

A CASE FOR LEGISLATION.

[9459] I beg to call your earnest attention to the following case, which I think will show the absolute necessity of compulsory legislation with regard to the infectious diseases of bees.

Some years ago the B.B.K.A. expended a large amount of time and talk on this subject, but owing to the opposition of a few influential, non-progressive, selfish, "conscientious objectors" nothing was done, and now after the ravages of "Isle of Wight" disease, when some of us are endeavouring to resuscitate bee-keeping in districts devastated by this scourge we are practically helpless to prevent such a scandalous action as narrated below, viz.:

Last year I procured two healthy stocks of bees for the Gainsborough district, one went to the A end of the town, the other to the B; both districts had been entirely depleted of bees by "Isle of Wight" disease; these both did very well. This year a man living in the B district, who had lost all of his bees by "Isle of Wight" disease, has set out a dirty

diseased hive and combs in his garden about 80 ft. from the new stock for the sole purpose of killing it, and saying, that if he cannot keep bees there no one else shall. The man has padlocked his garden gate to prevent any removal or interference with the old hive, and the danger is imminent and visible: the new stock is protected as far as possible with Bacterol spray regularly, but what would the conscientious objectors suggest should be done in a case of this sort? If we made flammenwerfers here I would have tested one on that dirty hive; it would have disinfected it from the garden gate; but had we compulsory inspection that hive would have had to be properly cleansed and combs burnt before being put away. The owner of the other hive has this year sent a swarm close to the stock at the B district, so that now the only two hives in this neighbourhood for miles round are threatened with "Isle of Wight" disease at the caprice of an unscrupulous — — —* man.

* I had to put those three dashes, as my vocabulary gave out.—F. J. CRIBB.

Eat less Bread

A RECORD SWARM?

[9460] On June 7 I had a swarm of bees which I think is very nearly a record, and I would like to have your opinion thereon. It came from a hive I started last year with a late swarm (about August). I had a small swarm from it on May 27, which I returned to the hive; yesterday they came out in bulk, and the swarm weighed an ounce or two under 12lbs. The skep in which I took them would not hold them all, and after emptying the skep I had to make a second capture of about 2lbs. of bees. The queen was easily seen, and was a young one. I had no trouble hiving them in the evening. I have put them in a new hive with eleven frames. This is the third swarm I have had this year, and now have five full working hives. We are very busy this year in this district among the bees. I personally know of over thirty stocks, and we are increasing our numbers weekly. Three years ago nearly every hive in the district was depleted by "Isle of Wight" disease, but we seem to be entirely free from any trace of it now, and all stocks are as healthy as possible. I have one strange kind of bee among my various hives: it has red wings and a red patch on its back, and is quite alien to the majority. Can you tell me what class it belongs to?—HAROLD H. WARD.

[We should think the swarm is probably a record. Can any of our readers cap it? We cannot say what the bee is without seeing a specimen.—EDS.]

THE B.B.J. AT THE FRONT.

[9461] I am having the JOURNAL regularly, and I always look forward to its arrival. I do not belong to the Association, but intend to join when we get back.

I had the pleasure of hiving a swarm about a week ago, it seemed quite an experience for me out here.

I have had several stocks die off with "Isle of Wight" disease, and now have none left. The bees in our district have nearly all been wiped out by the disease, but I intend starting in earnest when I get back. I have several mates who also intend taking up bee-keeping after the war, and I intend sending home very shortly for a "Guide Book" for them. Thanks very much for sending the B.B.J. regularly. I always like it. Wishing all bee-keepers the best of luck this season.—SPR. W. R. BROWN, B.E.F., France.

CRIMSON POLLEN.

[9462] In reply to Mr. Chaplin's inquiry [9452] regarding crimson pollen, it is most likely this will be from the horse chestnut flowers.—GEORGE HAYES.

PRESS CUTTINGS.

BIG SWARM OF BEES IN BUSY EASTBOURNE ROAD.

Mr. H. E. Warren, jeweller, of Eastbourne and Sevenoaks, who is Hon. Secretary of the Sevenoaks branch of the Kent Bee-keepers' Association, enjoyed the experience at Eastbourne on June 12, of handling a swarm of 20,000 bees. The swarm was first noticed on Monday afternoon in a tree in Terminus Road between the Railway Station and Terminus Place, and the unusual sight naturally attracted a great deal of attention. However, no one felt inclined to interfere with the bees until their presence was mentioned to Mr. Warren. For fifteen years Mr. Warren has made a study of bees and their habits, and without hesitation he announced his intention of mounting the tree and capturing the swarm. A ladder was procured, and up it went Mr. Warren, much to the amusement of many people and to the consternation of others.

He found the bees principally on a stout branch of the tree, and was, therefore, unable to shake them off into the box with which he had armed himself. He consequently had to scrape the bees off the branch with his hands. Mr. Warren, who took the precaution to cover his face, as the sun was very hot, had to make three ascents to secure the swarm. He was successful in capturing the queen, which he placed in the box. The box was then placed top downwards at the foot of the tree and those bees which had not been secured gradually came down to the queen. Mr. Warren told a representative of the *Sussex Daily News* that it was very rare such a large swarm of bees was found in so busy a thoroughfare as Terminus Road. He also pointed out that a pound of honey was equal to twenty eggs in point of bodily nourishment, and he strongly advised people to indulge in bee farming.

OVER GOES THE BOX.

There was rather an amusing and exciting sequel to the capture in the evening. The bees had been allowed to rest at the foot of the tree, and about seven o'clock a man approached while Mr. Warren, Mr. Tom Bainbridge, and their assistants were near. The man claimed the bees as his swarm, and, after an argument, he kicked the box over. Consequently the bees again secured their liberty and infested the tree and the immediate locality. For about two hours Mr. Warren and his colleague were engaged in the task of recapture. The queen proved to be very elusive, and it was not until after nine o'clock that the swarm was again in captivity. For two hours a considerable crowd of people assembled in the vicinity, and were highly interested when Mr. Warren, with his face covered, mounted the tree and once more scooped the bees into a box. —From the *Sussex Daily News*.

THE TEMPLE BEES.

A correspondent writes from the Temple: "As far as I know, your contributor, Mr. G. G. Desmond, now, unfortunately a prisoner in the hands of the Germans, was the only keeper of honey bees in the Temple. He had a glass hive on a window ledge outside his chambers in Hare Court, and I understand that his stock got a good harvest of honey in the Temple Gardens. One morning I asked a policeman in Middle Temple Lane if he could tell me the way to the Temple beehive. The constable regarded me as a lunatic, but I found the object of my quest later on, and when I pointed out Mr. Desmond's glass case to the officer he apologised in satisfactory style; adding that it was his first and only intimation that people kept bees in Fleet Street."

I may add that the honey Mr. Desmond's bees made was very good—though suffering slightly from an excessive flavour of lime, from the lime trees which they frequented. It was an observation hive. I have several times watched the bess at work in it.—From the *Daily News and Leader*.

[Mr. Desmond will be known to many of our readers as a frequent contributor to the B.B.J., and we are sorry to see from the foregoing cutting that he is now a prisoner in Germany.—EDS.]

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

TWO QUEENS IN A HIVE.

[9062] As an amateur bee-keeper of two years' standing, and a seeker after practical knowledge, I should much esteem, from an expert, some explanation of the fact that there are two queens in my colony.

I wintered down two colonies, but on examination on April 17, I found only a little drone brood in one hive, which I took to indicate the loss of the queen and presence of a fertile worker, so I united them with the hive which had worker brood, and this colony produced good, plentiful brood, but later on I found there was far too much drone brood.

Early in May I doubled my hive, giving new brood frames (ready drawn out) below and about the same time a rack of shallow frames. Later on I took out three combs, and started a nucleus, which has since reared a queen, and I intended replacing the drone breeder with the young queen when mated and laying.

But on examination a week ago I was surprised to find two queens in the large hive, with an improvement as regards the excessive drone brood, and yesterday I again examined, saw the two queens again, with good worker brood increasing. The latter was not much in evidence in the lower or new brood chamber (which

contained mainly large stores of pollen). It looks to me as if the two queens are going to live amicably together in the same hive. Is this so?

Why should the old queen (last year's only) have taken to drone breeding? Are the increased quantities of worker brood due to the activities of the new queen, or has the old queen improved her habits in this respect—or, are they both laying? Information on these points will be welcomed.

I may add that I have carefully looked —at intervals of a week—for queen cells and found none but old, empty cells, so it is a puzzle how this young queen arrived.

I took between 40 and 50 lbs. of honey from the two shallow supers yesterday, and there are good stores below on the brood frames, the nucleus is working well, too, but the queen has not started laying yet, although she was presumably hatched out by May 27, as the four queen cells were all empty then, and I *saw* her on June 2. Should she not have been mated by now?

(Mrs.) I. M. Chambers.

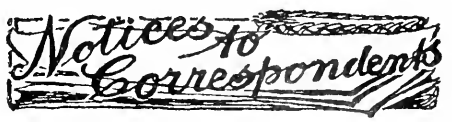
Reply.—The colony with drone brood had a drone breeding queen, not a laying worker. When you united this to the other colony the two queens did not meet, or one would have killed the other, and for some reason the workers tolerated the two. Though not usual, this is done at times.

The increase of worker brood is due to the one queen that is laying worker eggs. The increase in numbers by uniting the two colonies would enable the bees to tend and keep warm a larger number of larvæ, and the good queen would be stimulated to lay more eggs. The drone breeder will not be likely to improve. The large amount of drone brood proved she was still laying.

The two queens are not likely to survive for any length of time, sooner or later they will meet and a duel to the death ensue or the workers will kill the useless queen. Better take the matter into your own hands and remove the drone breeder.

Why the queen should have become a drone breeder it is impossible to say. It is no uncommon thing for a queen that was laying all right in the autumn to be a drone breeder the following spring. This year there appear to have been more cases than usual. The queen may be prematurely worn out, or through some functional disorder the eggs are not "fertilised"; she may have received some injury, or possibly been chilled during the severe weather in the spring.

No doubt the queen in the nucleus will be laying by the time you read this. She should be, as the weather has been very favourable for her mating.



Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

E. Bissett (Sussex).—*Making Nucleus.*—A nucleus made from one comb of bees with queen with a frame of foundation on either side would not prove very satisfactory. It will be far better to make it of three drawn-out combs with bees and queen, the centre comb containing brood and the other two stored with honey, or with brood on one side only. All the brood should be put in the centre. As more room is needed, add frames of foundation.

"A. S. B." (Surrey).—*Cleaning Sections.*—All propolis, etc., should be scraped from the outside by means of a piece of glass, or a cabinet-maker's steel scraper, and if you want to make a specially clean job finish off with glass paper, lay a sheet of glass paper on the table and rub the section on it. Small particles of propolis on the edges and inside near the comb may be removed with a penknife, being careful not to damage the capping.

Capt. E. R. Holmes (Bedford).—*Removing Bees from House.*—We cannot say how to do this without a personal examination of the place. The bees will have built comb by now, and if you cannot get at them to get the comb and bees out the following plan may help you:—Prepare a small colony or nucleus in a light box. Blow some smoke into the grating by which the bees enter, and erect a platform close to it. Then fix a Porter escape over the grating, so that the bees can come out but not get back. Place the nucleus on the platform with its entrance as near the Porter escape as possible. When the bees leave the grating they will find that they cannot return, and one by one will enter the nucleus. In four or five weeks the queen in the house will have very few bees with her and these can be destroyed by removing the escape and with the smoker, blowing in sulphur fumes. In the course of three or four days the bees in the nucleus will remove the honey out of the tree and store it in the nucleus hive. It may then be removed, and the bees transferred to a bar frame hive. Move them about a couple of miles, but if this cannot be done move them as far as possible, and place a bunch of dried grass loosely on the alighting board in front of the entrance so that the bees have to work their way out through it for a couple or three days.

"M. C." (Essex).—*Transferring Bees to New Hive.*—It will be quite safe and much better to move the bees as soon as you can rather than let them stay in the old hive. Your second letter told us just what we wanted to know; we were afraid the bees had been hived in a box with no frames of foundation. You may either fix up the new hive by the side of, and close to the old one, or move the old one a couple of feet to one side, and fix the new hive on the stand it occupied. Make it level from side to side, and the front slightly lower than the back. If the foundation is badly buckled or broken down the only thing is to remove the sections and put in fresh foundation. If only slightly buckled it will not matter. If the rack is full of bees they will draw out the comb and store honey in due time.

"A. P." (Titchfield).—*Bees Refusing to Enter Sections.*—We can give no reason, except that the bees are not yet strong enough in numbers. They usually take very readily to drawn-out sections. Try putting a little honey in the lower cells of some of them.

"CHEAM" (Surrey).—*Young Queen Cast Out.*—Your bees will be all right. It simply means that they have, for the time at any rate, abandoned the idea of swarming again, therefore only one queen is needed, and the others have been killed.

ROSE (Sheerness).—*Nucleus Swarming.*—(1) No, the bees do not fight as a rule, but the queen in the nucleus should be caged for 36 hours. (2) Instead of there being any objection it is the best thing you can do. (3) Unite them as soon as the young queen is laying.

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DUTCH Bees for sale.—3-frame Nucleus, 25s.; also six W.B.C. Section Racks, nearly new, 4s. each.—SEALE HARDUMONT, Oatlands Drive, Weybridge, Surrey. g 41

WANTED, Swarms of Bees, any strain, guaranteed healthy, for cash.—BLACKMORE, Halthaies, Bradninch, Devon. g 40

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SWARMS of healthy reliable Bees for disposal.—Apply, STANLEY, Pulloxhill, Ampthill, Beds. g 37

WANTED, Swarm or Nucleus British Black Bees, guaranteed healthy; state price when ready.—BROOKS, Lincoln-road, Winthorpe, Newark-on-Trent. g 36

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FOR SALE, one Stock of Dutch Bees, 10 frames, £4; also one 6 frame stock, 48s.; carriage forward; boxes to be returned.—BISSET, Broadwater, Worthing. g 34

WANTED, healthy Swarm English Blacks; good price given.—F. BIGGE, Tyburn, Birmingham. g 33

EXTRACTOR, ungeared, splendid condition, a sacrifice, 17s. 6d.—SIMMONDS, 181, Fordwych-road, Cricklewood, London, N.W. 2. g 15

HEALTHY, prolific 1917 British and Hybrid Queens, latter swarm raised, 5s. 3d.—HOLLINGSWORTH, Heanor. g 22

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STRONG 3-frame Nuclei, with 1917 fertile, prolific, gentle queens, 22s. 6d.; Queens, fertile, 5s.; Virgin, 2s. 3d. each, by return.—HILLMAN, Expert, Bridge House, Stonehouse, Glos. g 49

BRITISH BEE-KEEPERS' ASSOCIATION.

LECTURES AT GOLDER'S HILL PARK.

Free popular lectures and demonstrations will be given at the Association's Apiary in the London County Council's Park, Golder's Hill, London, N. (nearest Station, Golder's Green Tube), on June 29, and July 6 and 13, at four o'clock p.m.

On the same dates, at 6 p.m., a special course of lectures will be given, for which a small fee is charged.

W. HERROD-HEMPSALL,
Secretary.

MONTHLY MEETING OF COUNCIL.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on June 21, 1917.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Messrs. J. Smallwood, G. Bryden, G. S. Faunch, C. L. M. Eales, G. R. Alder, G. J. Flashman, W. H. Simms, A. Richards, J. Herrod-Hempsall, G. W. Judge and Major F. Sitwell. Association representatives, Rev. T. E. Peters (Bucks.), W. A. Cragg (Middlesex), and the Secretary, W. Herrod-Hempsall.

A letter expressing regret at inability to attend was read from Mr. T. W. Cowan.

The minutes of Council meeting held May 17, 1917, were read and confirmed.

A record number of new members were elected, as follows:—The Hon. Florence Amherst, Mrs. N. F. Bramley, Mrs. A. Maxwell, Misses M. C. Stopes, Nixley, V. M. Douglas, A. Tritton, L. M. Beadnell, Messrs. E. Ff. Ball, J.P., T. Davies, G. A. Webster, T. Aley, B. Jones, J. M. Dewar, P. Dunn, N. J. Billing, A. Stapley, V. S. Waite, J. P. Pattullo, Col. H. Ross Johnson, Major G. H. Harlow and Captain G. Holme.

The following representatives were nominated and accepted:—(Leicestershire), Mr. W. W. Falkner; (South Staffs.), Mr. R. Talbot Clayton.

The report of the Finance Committee was presented by Mr. J. Smallwood, who stated that payments into the bank for May amounted to £18 3s. 3d., the bank balance on June 1 was £138 7s. 6d., payments amounting to £42 2s. were recommended.

The report on the Preliminary Examination held at Stoke Mandeville was presented, and it was resolved that certificates be granted to Mrs. A. Bass, Rev. T. Peters, Messrs. J. Neighbour and J. King.

The report on the paper work for the Final Certificate (Expert) was presented, and it was resolved to ask Mrs. E. Bisset, Messrs. G. Bryden and F. C. Hodgson to present themselves for the lecture test in due course.

A very hearty vote of thanks was passed to Mr. D. M. Macdonald for undertaking the ardous duties of examiner.

Preliminary examinations were applied for by the Kent, Somerset and Norfolk Associations, also at Henwick, and all were granted.

Letters were read from Rev. F. N. Fowler, Mr. E. J. Burtt and the London County Council, and the Secretary was instructed to deal with them.

Next meeting of Council, July 19, 1917, at 23, Bedford Street, Strand, London, W.C.2.

SEASONABLE HINTS.

The chief concern of bee-keepers at the present time is securing the honey harvest. There is a fair amount of white clover in bloom, and with the help of other wild flowers, and given favourable weather, honey should be coming in freely. More supers may be added as those already on the hive become filled up, and no honey should be taken off until it is sealed over. This is especially necessary with sections, every cell should be covered over, or if the section has to be kept for a few weeks, the honey will become thin by absorbing moisture from the air, and the thin exposed honey will run over the face of the comb and spoil its appearance, probably it will ferment, and eventually make the section unsaleable. When the honey is intended for one's own immediate consumption a few unsealed cells will not matter. Sections should be taken off at once when they are ready, as if left on the hive the cappings will become travel stained and dirty. Shallow combs, on the other hand, should be left on as long as possible. The appearance of the capping does not matter, as it is pared off before extracting, and the longer the honey remains in the hive the riper, thicker, and better flavoured it becomes. Do not be tempted to extract unripe, unsealed honey, and try to ripen it artificially. Artificial ripening is very likely to end in the honey fermenting, and in any case the flavour will not be nearly so good as when the honey is left

in the hive to be ripened by the bees, who are specialists at the work.

When a super is removed use a super clearer, by means of this appliance the bees may be cleared out in about twelve hours without any trouble. Just one word of warning, if a "Cottager" hive is used make certain that the super clearer will fit before trying to use it. Many of the cheap hives are small, and the temper of bees and bee-keeper is not improved when, after lifting off the super to be removed, the clearing board is found to be just a little too large to fit into the hive.

Swarming may still cause trouble, but may be checked very considerably by giving plenty of super room while the honey flow lasts, and seeing that the queen has plenty of scope for egg laying. Some colonies have a knack of choking the brood combs with honey, leaving no vacant cells for the queen to utilise. When this occurs the honey should be extracted, and the combs returned to the centre of the brood box, or they may be replaced by new frames and foundation, and stored till autumn, when they may be given to any stocks that have not enough stores for winter, thus saving the trouble and expense of feeding, and the bees will have the food intended for them by Nature.

Another plan to check swarming is to make a nucleus from any stock showing a tendency to swarm. This may be worked up into another stock, or used for the purpose of raising a young queen to replace the old one after the honey flow.

If the former plan is adopted take out of the old stock three combs, one containing brood, and, if possible, a queen cell, and the other two containing honey. Place them in a full-sized hive, the brood comb in the centre and close up with a division board. Shake the bees from a couple more combs into the nucleus, being careful not to get the queen, and place it on another stand. As the number of bees increase add more combs or frames of foundation. A comb of brood from other hives may be added at intervals, empty frames of comb or foundation being put in their place, all the bees should be brushed or shaken from them before adding to the nucleus, and combs containing old brood that is on the point of emerging should be chosen. By this method moderate increase of stock may be made without prejudice to the honey crop, and the swarming propensities of the old stocks be checked.

If the nucleus is used for rearing a young queen only, take out the three combs and bees as directed, and place in a nucleus hive, or if this is not available a full-sized hive may be used, and the combs closed up with a division board, or a make-shift hive may be made. Stand it at one side of the old stock a little to the front and within three or four feet of it. The young queen will eventually mate and lay, and after the honey harvest the old queen may be removed, and the nucleus and young queen united to the stock.

A DORSET YARN.

Among the blessings and promises to the Israelites of old was "Be fruitful and multiply, and ye shall inherit the land." That is applicable just now to the bees, for never have I had such an abundance of swarms as this time, and just in the hay season when so much has to be done in a little time. When half through a load of hay I have had one of the boys come running up: "The bees be swarming, Maister," and one gets back in time to see a huge swarm sailing away very low, just above the uncut grass, toward the river, and as the ground declines to the valley they are soon away up above the highest trees, circling round and round, cheering on the queen to make still greater effort, and on to the regions where the bees have "gone West." They have the spirit of the old navigators, who in their adventurous voyages across the trackless ocean, founded our world-wide Empire, so these little communists sing as they fly to distant parts of Dorset, "Let us colonise the earth with bees," still it is somewhat disappointing to lose them when there is so much nectar to be gathered close at home. One bar-frame hive with eleven frames has swarmed four times in seven days: it had on three racks of sections, and had filled two of them. Two of them had all their mad frolic for naught, for they were all sent in again, minus the queen. I have sprinkled water in front of the hives to stop swarming in other years, but there is no time now to watch them.

One May swarm has thrown off during this week two more swarms of great size, one of them had to go in again, and get on with honey gathering, for I want the sections filled while it is in full flow.

What abundance there is now for them, and of such variety! The honey gathered week by week is of different taste and colour each day or two. As I take out a section for tea the colour is varied, last week a rich colour, and yesterday quite pale but of exquisite flavour. I guess it is the blackberry, which is in such great abundance at this time.

I was able to send off three dozen and three sections from two hives last week.

Cannot keep pace with the demand for them.

Mr. Pike's article last week in the BRITISH BEE JOURNAL was quite in his best style, and was most delightful reading. There has been more noise of the drones round the hives the past week than at any time yet this season. I guess the young queens were taking their "wedding flights"; followed by so many males it is not a question of choice, but, according to Maeterlinck, the strongest in flight that is the royal parent of the young. We read in an old book, "Greater love hath no man than this: that he give his life for his friend." The male bee gives his life for the perpetuation of his race, he has but a moment of connubial bliss and his mission in life is over.

Other insects after mating give their bodies to the female as food. This is so with one of the beetle family, and so with one spider; she spins a web round the male while mating takes place, and then after all is correct, and all her eggs are fertilised, she turns round and eats her captive lord, for he cannot get away, as she has bound his legs with web. But I am again digressing. I notice that the Briony in the hedge-rows is in bloom now. This is one of a family of the floral kingdom that has its pollen flowers on one plant and the seed blossoms on another, and they are sometimes a great distance from each other. To have perfect seed the pollen has to be carried by insect agency, or the race would become extinct when the old perennial roots are decayed. The Andrena bees seem to be the only ones that are attracted to this flower, the honey-bees are not to be found much on it, at least not round here. I notice also that the bees are inclined to be angry these windy days. When on the hay stack making the rick the bees flying home or away are inclined to resent our close proximity to their homes, and are troublesome to the men and horses—must make the next stack farther from them.

I am inclined to think that more interest is being taken in bees as the time goes on, as so many inquiries come about them. I hope the daily Press will boom the craft still more.—J. J. KETTLE.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

By J. Price.

I fancy those who have read my previous articles on "Isle of Wight" disease will be wondering what has happened with my experiments in this direction, therefore for those already interested I send a few further particulars, and for the benefit of those who have missed the former articles I will give a brief summary of what I have already done.

For the purposes of experiment, on July 3rd last year, I put five swarms on to combs on which my bees had previously died of disease; these contained stores, and were badly stained by excreta.

My intention was to prove that it takes at least four months for the disease to develop after infection takes place, and it may be a great deal longer.

This theory proved correct, for it was October 26 before the first lot began to show any symptoms of disease. Later on in the year the disease gradually got worse, and this one stock died about March 15 this year, almost six months after the disease first became visible, a very remarkable thing, especially when the wretched wintry weather we have had is taken into account.

Another stock threw out its first crawlers in December, and died early in the new year. This left me with three stocks, one of which had robbed out my neighbour's two hives of their stores last August, and I am pleased to say that neither of them has yet shown the least sign of disease, and were supered May 20.

Having satisfied myself on the first point named, I decided to carry out further experiments, particularly with a view to testing the value of Bacterol. I commenced treatment in April by spraying the bees and combs with a solution of Bacterol and water, 1.40; this was repeated a month afterwards and the week before supering; I gave them another dose on June 3. In the meantime I have been feeding my bees with stores that the other bees died on, my method being to place a comb, with the cappings bruised, by the side of the division board, having first of all sprayed it with the above-mentioned solution. The bees take this eagerly, and it acts as a good stimulant for breeding.

In this way I am constantly feeding my bees with spores of the disease, and at the same time hoping to counteract their activity by the use of Bacterol. In doing this I know I am putting Bacterol to a very severe test, and why should I not do so? If it will keep disease away in my case, then I will give it due praise; if it fails, then the sooner we try something else the better for the bees and those that keep them. Delay is only robbing us of our bees, and soon there will be none left if something is not

found to be effectual. In my experiment so far everything points to success, but the true test will come later on in the autumn when the young brood ceases to replace the older bees.

I am annoyed at suggestions that "Isle of Wight" disease can be permanently cured in three minutes by a dose of some drug. To put faith in anything of this kind is ridiculous, as the disease is most difficult to get rid of, and requires constant application of remedies—or rather preventives—before we can report of success with safety. There are now so many sources of reinfection that bees which throw off disease one day might be reinfected the next.

I hold no brief for Bacterol, and find no verdict at present as to its effectiveness in curing bees afflicted with disease. I have had considerable correspondence from bee-keepers who have used it without success, so that I am determined to carry out strict observation before I report favourably of it as a cure. At the same time I will say that if it is used as a preventive when the bees are apparently healthy, then I think it will prove most helpful.

Time alone will tell us if this is right. In my case I have decided to try it because it can be so easily applied, and the bees raise no objection to take it.

On the other hand, several substances have been used with apparent success during the active breeding season. Dr. Allen, of Ambleside, reported in the "B.B.J.," in February, of having cured stocks suffering from disease by dusting with Flowers of Sulphur.

I have seen very good results from using this: care has to be taken that the brood is not dusted, and it can only be used in the summer time, when a high temperature will cause the antiseptic gas to come off.

I think if this method of dusting the bees in the brood nests was adopted during the supering season, and then followed up with the Bacterol or Izal treatment of medicating all stores in the autumn, we should be far nearer success, and should not hear of so many failures. As a note of warning to those who will not move until they see their bees sick with disease, I may say that I am still of opinion that no stock badly diseased in autumn will ever be cured. If preventive measures have been neglected in the active season it is hopeless to expect to winter our bees safely.

Since writing the above, one of my stocks has swarmed, and the others are working well in the supers.

ON PREVENTION OF SWARMING.

Every bee-keeper has had his experiences, pleasant or otherwise, on this subject, and the problem with many, located in suburban districts, is how to prevent it or keep it in check. As I have lived and kept bees in the suburbs of London for the last thirty-two years, I thought my experiences and the way I overcame the difficulty and annoyance caused to neighbours by swarming may be of some interest to those placed similarly. In the first place, please understand I am not advancing any new theory of my own, I have no axe to grind; I am keeping bees for pleasure and study, and profit of course, when such can be got, especially now when sugar is almost a luxury. I am, therefore, giving my experiences plain and simple, and if my notes may be the means of helping a brother bee-keeper out of a difficulty, I shall be glad to know that I have been instrumental in having done something good in the interests of bee-craft.

To commence with, every bee-keeper ought to be in perfect touch with his bees—know the history of the strain, the age of his queens, their prolificness and the working qualities of the bees, whether they will produce good, white capping of sections or may be more profitably employed on shallow frames, and make his arrangements accordingly. For easy reference I keep these notes on a tablet fixed underneath the roofs of the hives. An all-important matter for the well-doing of the bees and to check swarming to a great extent is, to my mind, the stand of the hive. I consider this of first importance, and am afraid it does not always receive the attention it deserves. We find hives placed in all aspects, some due north and some due south in the full glare of the broiling sun, and no wonder the bees cluster outside, wasting time, and swarm at the first opportunity. Of course, the orthodox and best aspect is facing south-east, but it may not always be possible to place the hives in that position, more often than not a position due south or south-west is available and cannot be objected to, but I consider that the hives want the protection of a light, open shed, to shade them against the hot rays of the sun. A shed has many advantages. The hives can be operated upon in almost any weather—they are kept dry, winter and summer, no leaky roofs, and the operator is not molested under cover of the shed from the bees of other hives; but, last and not least, the greatest advantage of a shed is that the hives can be kept at a more uniform temperature during the summer, and

this I consider the crux of preventing swarming as much as possible. For these reasons I have kept my hives under sheds for a number of years; of course, for a large establishment, the question of cost would enter, but where only a few are kept this is not very material.

(To be continued.)

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

ANOTHER CASE FOR LEGISLATION.

[9463.] *Re* your correspondent whose letter is registered 9459. In my opinion he would have been fully justified in paying the disease-infested hive a secret visit, and with the aid of some inflammable liquid, celebrating the Fifth of November. Now to my mind, nothing has a more soothing influence on the human animal when distressed or in pain, than to discover another in like difficulties; hence this is to be applied as healing balm.

This district has been visited by the dread "Isle of Wight" disease, with the result that early spring found, so far as I could learn, the local expert and myself as the only bee-men with stocks alive and healthy; and who can wonder after considering the following facts.

One so-called bee-keeper of about eighteen years' experience, whose apiary is situated in the immediate vicinity, and who is a member of the county B.K.A., has made a practice of purchasing driven bees, regardless of the district they came from, with the result that—well, his bees died with "Isle of Wight" disease.

Yet another case, where the victim was more sinned against than sinning. One of the "used-to-keep-bees-years-ago" variety thought he might as well make his fortune by keeping bees as by any other simple process—so, the usual spider in human form, who was out for any victim that might hap along, advertised a stock for sale, in the local journal. "Mr. Fly," of course, walked into it, bought the stock, placed it in his garden less than 100 yards from mine, and that lot died from "Isle of Wight" disease in about three months from date of delivery. In this case "Mr. Spider" had previously lost several stocks from the fell disease, and at one time not a live bee "remained to tell the tale" in the village, which is situated about three miles from here, and this gentleman also is a member of the B.K.A.

Now this is where the conscientious objector gets a show. The expert, while making his calls in the autumn, visited both these apiaries before calling here, and while I am satisfied that the disease was not brought to my bees, who would be so bold as to state that the risk was not great? At the same time it illustrates the risks incurred by visits from experts who—as in this case—may be quite unaware of the existence of disease in its initial stage, and who would take the utmost care to avoid conveying disease consciously.

However, I am prepared to take the risk, and can assure your correspondent that compulsory legislation—as the lesser evil—has the support of—BEE-KEEPER.

BEE-KEEPING FOR JUVENILES.

[9464.] On account of the large number of bee-keepers who are in the Army, and, because of this, are unable to keep up their apiaries, would it not be possible to make the boys and girls of our country interested in the industry of bee-keeping?

I started bee-keeping when I was fourteen years old, and since that time I have taken a great deal of honey, and have also obtained a fair knowledge of the way to manage these wonderful creatures, which set such a splendid example to the human race.

What a great thing it would be for the fruit, and also for the honey production of our country, if it were only possible to make the younger members of the community interested in the life of the bee.

Many articles have already appeared in the JOURNAL which state how important it is to produce more honey, owing to the great scarcity of sugar caused by this terrible war; and so far as I can see the production of honey would be greatly increased if the boys and girls kept bees. The thing is, how is the knowledge of bee-keeping going to be spread enough to make them do it.

I suggest, and hope those who read this, agree with the suggestion, that the experts of the different counties should give lantern lectures on bee-keeping in the public schools, if any, in their respective districts.

I have spoken to many boys about keeping bees, but they seem unable to grasp that bee-keeping is really so interesting as one describes it. I think that by using lantern slides this difficulty can be overcome, and they may be able to see something of what goes on inside one of these miraculous waxen citadels.

Shakespeare, in his "Henry V.," gives a vivid description of what a wonderful creature the bee appeared in those days when they knew, comparatively speaking, nothing of the inside life of the hive. The modern improvements, which have been brought out since then, have made the study of this insect more interesting than ever, and also made them really very easy to manage.

Young people are always more or less afraid of being stung, but there is really no necessity for anyone to be stung, if they take the precaution of never going to the hives without putting on a veil and gloves.

A veil gives great confidence to the manipulator, especially if he or she is a novice.—C. B. PARDOE.

PRESS CUTTING.

EASTBOURNE SWARM OF BEES.

POLICE COURT SUMMONS AS SEQUEL.

A story of a swarm of bees which were made angry was told to the Mayor (in the chair), Councillor Bolton, Alderman Duke, Sir Steyning Edgerley, Alderman Keay, Mr. Hudson, Mr. Leatham, and Major Molineux at the Eastbourne Borough Bench on June 15, when Alfred Miller, of Broomfield Street, Old Town, was summoned for disorderly conduct in Terminus Road on June 12.

He denied the offence.

A TWO DAYS' WATCH OVER THE BEES.

Mr. Henry Elliott Warren, jeweller, and secretary of the Sevenoaks Branch of the Kent Bee-keepers' Association, stated that he came to his Eastbourne business on Monday, and was told there was a swarm of bees in a tree in Terminus Road. He went to see them and watched them all day. Next morning they were still there, and he mounted the tree and secured the swarm. He left them at the foot of the tree from 9.30 a.m., and watched them during the whole of the day until about 8 p.m., when he packed them in a box ready to take away. At the last moment defendant came up and said, "You have got my bees." Witness said, "No, they are my bees," and defendant replied, "No, they are my swarm. They came out two hours ago." Witness told him, "These bees have been here since yesterday." Defendant wanted to make terms with him, but witness informed him there was nothing to make terms about. Witness also refused to allow defendant to look at the bees, as they were packed up. Defendant then said, "Take your —— bees," and kicked the box into the air. Consequently, a very large crowd assembled.

The Magistrates' Clerk: What did the bees do under the circumstances?

They were very angry. Several people were stung, and I was stung four or five times. After a time I got my bees back again. Some soldiers would have thrashed defendant if a policeman had not come forward.

The Magistrates' Clerk: You had appropriated these bees?—No, I was doing it in the national interests.

P.C. Simmons deposed that he saw defendant approach the bees. There was some conversation between defendant and Mr. Warren, and defendant then kicked the bees over. The bees swarmed over everybody there—soldiers, civilians and himself—and several people were stung. It took about an hour and three-quarters to get the bees back again into the box. A large crowd assembled.

The Magistrates' Clerk: The bees were guilty of disorderly conduct?

Mr. Warren (interjecting): Oh, no, sir.

The Constable: The disorderly conduct was the kicking over of the box of bees.

Defendant called P.C. Dean to say that there was a crowd round the box all day. P.C. Dean, however, said he was on duty between 10 a.m. and 6 p.m., and no crowd assembled.

Defendant told the Bench that Mr. Warren did not act to him like a sportsman. There was a sort of brotherhood among bee-keepers, but Mr. Warren refused to answer any of his questions, and

pushed him. He would not speak to him (defendant) at all.

The Bench fined defendant 5s.—From the *Sussex Daily News*.

With respect to defendant's statement as reported in the last paragraph of the above cutting, Mr. Warren has written the following letter to the Editor of the *Sussex Daily News*:—

When the charge of disorderly conduct was heard this morning I was concerned to let it be known that this was not the conduct of bee-keepers, whom I have always found most delightful people to deal with. It is always recognised in the Bee World that if a man follows his bees he claims them, and no fellow bee-keeper would wish to take them from him, but in this instance they were known to have been at large for two days, and no one could possibly say they were his. I had no personal advantage in taking the bees, but to prevent their loss, as at the present time they are more than ever a great national asset in collecting the hundreds of tons of sugar—in the form of honey—that are yearly lost to the country for want of more bee culture.—H. E. WARREN, Hon. Secretary, Sevenoaks Branch, K.B.A.

QUERIES AND REPLIES.

EFFECT OF SPRAYING WITH BACTEROL.

[9063.] During the past month I have had one or two failures which lead me to believe that Bacterol is fatal to brood in its early stages, and I shall be pleased to hear whether any of your readers have experienced the same trouble, or can suggest any other cause.

One comb of brood, bees and queen having been removed from No. 1 stock, the remaining nine combs were sprayed with the prescribed strength of Bacterol, and left to raise queen cells; this they failed to do, and on examination two weeks later, eight half-built cells all empty, except one which contained an egg, were found.

No. 2 stock, treated in a like manner, completed five cells; a nucleus was made but both lots of cells failed.

No. 3 stock was sprayed comb by comb until the queen was found on the fifth comb, but owing to the excitement of a lady friend who was anxious to see the queen the remaining five combs were not sprayed. To-day I find two capped queen cells, which look very much like business, but they are not on the four combs which were sprayed.

The same operations were carried out with success last year, but the spraying was done with Izal; although I am convinced that Bacterol is the cause of my failures this year, I have no hesitation in continuing to use it in moderation owing to its undoubted beneficial effects on my stocks.—E. G. STAYGLE.

REPLY.—We have not found eggs or larvæ killed by spraying with Bacterol, Izal or other remedies. We have also made inquiries from others who have used them, and no one appears to have noticed any ill effects. We shall be pleased to hear if any of our readers have noticed any injury to eggs or larvæ after spraying. It is a rather important point.

SWARMING VAGARIES.

[9064] I see the economy "experts" are advising mutton fat to be used for sealing up bottled fruit. Mutton is 1s. 8d. per lb., and you can't get much fat out of a good-sized joint, so where the economy? Can any reader tell me whether beeswax would be right to seal the fruit— that is, to put on the top of the water in the bottle?

My bees are swarming, apparently without reason. A large swarm came out on the 6th, returned to the hive the next day, came out again on the 8th, and returned the second time to the hive. Can you explain?—M. W. B.

REPLY.—It is impossible to give a reason for all the vagaries of bees, especially when swarming, and we cannot say why your bees acted as they did.

We are afraid pure beeswax would not be suitable for the purpose; it would probably leave the glass when cold, and admit air. Perhaps it might answer if a little vaseline was mixed with it; but is beeswax any cheaper than mutton fat?

Notices to Correspondents

W. A. ANSELL (Essex.) *Law Relating to Swarms.* If you saw the swarm leave your hive and cluster on a tree in your neighbour's garden you can claim them, but you are liable for any damage yor may do in the process of hiving them. If the owner of the garden refuses to allow you to fetch the bees you can recover their value in the County Court, and we believe you can also claim damages as well, but this would probably depend on the view taken by the judge. In some cases the value of a swarm of bees has been recovered even when

the owner has for a time lost sight of them if he has been able to bring reasonable proof that the swarm was from his hives, this again depending on the view taken by the judge.

"GLOS" (Gloucester). *Extracting Unripe Honey.*—The honey should not be extracted from shallow or any other combs until it is all sealed over. The honey may "candy" all right, but it will not keep. See Seasonable Hints.

MAGOR (Monmouths.). *Queen Cast Out. Moving Bees to Heather.*—We hope you will recognise the name, as we are unable to decipher your signature. The queen had been dead in the cell for some time, possibly owing to some injury. (2) If there is any quantity of heather it will probably pay to move the hives. The honey from Bell heather is not so good quality as that from the common Ling. There is no need to requeen if the queens have been raised this year.

T. EDGELER (Catford).—(1) You may keep them without a queen for several weeks, but the longer they are queenless the more difficult it will be to introduce another queen. (2) The workers do not sting the queen, but "ball" her. That is, they cluster round her in a compact mass about as large as a billiard ball, and suffocate her. (3) A queen introducing cage should not admit worker bees until the bee-keeper desires. (4) Yes, it would be better to get a queen in as soon as possible.

VERACITY (Wexford).—It will not be safe to use honey from diseased bees. If there is no other choice add ½ pint of water to each pound of honey and boil for fifteen minutes. When lukewarm add 3gr. of Naphthol beta dissolved in spirit to each pound of syrup.

G. W. CUTHBERTSON (Darlington).—The bees belong to the family Andrenidæ, and are no use for hives.

G. M. THOMPSON (Lincs.), B. H. D. (Hants;, and W. JONES-BROWN (Lancs.).—We are sorry it is quite impossible for us to obtain sugar for bees. It can only be obtained in the form of candy made by Messrs. Jas. Pascall, Ltd. This may be melted down for syrup in the same manner as sugar. It is an expensive method of making syrup, and we have done all we could to get the authorities to allow bee-keepers to have the sugar for making syrup, after treating it in some way to make it unfit for domestic use—which might, we think, easily be done—but have so far failed.

Suspected Disease.

J. M. W. (Hamilton).—"Isle of Wight" disease is developing in the bees sent.

KENT BEE-KEEPERS' ASSOCIATION.

A special lecture and demonstration on "Bee-keeping as a Means of Food Production" will be given in the grounds of The Mansion, Sundridge Park (by kind permission), by Mr. W. Herrod-Hempsall, on Saturday, June 30, at 5 p.m.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1*d. per word as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3*s. per* ¼*in., or* 5*s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei.** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

PRIVATE ADVERTISEMENTS.

EXTRACTOR wanted; say sort, condition and price. Also Cheshire's Book on Bees, 2 vols.—BLAKE, 98, Stafford-street, Longton, Staffs. g 51

FOR SALE, Stock of Bees, on eight standard frames, 1916 queen, in new 10-frame Hive, with rack of sections, metal dividers and foundation, £4 10s., carriage paid.—W. WOODS, Normandy, Guildford. g 52

HOME-MADE Hives for sale, floor-board, calico covered roof, two lifts, two shallow frame racks, all parts interchangeable, 10s. each.—BUTTON, Castle Camps, Cambs. g 53

2 CWT. Pure Light Cambridgeshire Honey, 200s. per cwt.; sample, 4d.—J. YOUNGER, 6, Maids' Causeway, Cambridge. g 54

SCOTCH Gentlemen (Peebleshire) want Stock (no hive) or strong Swarm, guaranteed healthy.—Apply, WALLACE, Bramhall, Cheshire. g 56

EXTRACTOR.—Cowan's geared reversible; good condition; extracts 2 frames perfectly without removal; list price £4; accept 55s.—R.N.A.S., 85, Ranelagh-road, Felixstowe. g 58

THE Wandsworth (B) Sub-Committee of the London War Pensions Committee desire to hear of work in an apiary for a discharged soldier who has had many years experience of bee-keeping.—Apply, HON. SECRETARY, 21, Mexfield-road, Putney. g 48

DUTCH Bees for sale.—3-frame Nucleus, 25s.; also six W.B.C. Section Racks, nearly new, 4s. each.—SEALE, Hardumont, Oatlands Drive, Weybridge, Surrey. g 41

SWARMS of healthy reliable Bees for disposal.—Apply, STANLEY, Pulloxhill, Ampthill, Beds. g 37

FOR SALE, good Field Spaniel Bitch, broken to gun and retrieve, good yard dog, 25s., to immediate purchaser, or will exchange for anything useful; not livestock.—W. HERROD-HEMPSALL, Old Bedford-road, Luton. e 26

BUSINESS ADVERTISEMENTS.

CHOICE PROLIFIC ENGLISH QUEENS, 1917, from non-swarming stocks, tested and selected, 6s. each; safe arrival guaranteed (12th year). Illustrated work, "How to Prevent Swarming," with many photos of bees and their work, 7d. All post free.—WILKES, Four Oaks, Birmingham. a 4

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

ITALIAN Queens, direct from Italy.—Address: E. PENNA, Bologna, Italy. One pure fertile Italian Queen, May, 5s.; June, July, August, September, 3s. 6d.; Queens sent post free; safe arrival guaranteed; cash with orders. Addresses to be written very clearly. Special offers are countermanded till further notice. I book in advance orders with cash for Queens to be delivered in July at ordinary prices. Cash should be sent by English postal order, made payable to E. Penna.

MY first batch of pure Italian Queen Bees sold out. Others ready early in July. Prices reduced. Will have a few 4, 6, or 8 frame lots for sale third week in July. Stamp for full particulars.—CROWE, Stawell, Bridgwater. g 55

HONEY required; extracted and sections.—Particulars to S. J. BALDWIN, Bromley Kent. a 6

A FEW Dutch (1917) Tested Queens, 5s. 6d., post free.—W. WOODLEY, Beedon, Newbury. g 57

BRITISH BEE-KEEPERS' ASSOCIATION.

LECTURES AT GOLDER'S HILL PARK.

Free popular lectures and demonstrations will be given at the Association's Apiary in the London County Council's Park, Golder's Hill, London, N. (nearest Station, Golder's Green Tube), on July 6 and 13, at four o'clock p.m.

W. HERROD-HEMPSALL,
Secretary.

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Gunner R. H. Attenborough, High Cross, Aldenham—R.F.A.

A DORSET YARN.

Another week of swarming—at least, when weather was favourable. Queens are very plentiful, particularly in the May swarms of this year. I have taken two from the tops of sections in one stock, and they have come out four times since. I caught the queen as they came out, and twice they had to go in again in the evening. By catching the queen as they emerge in a hurry from the hive they have their mad flight round, but they are not long away. They soon find that their queen is not with them, and all go back in a hurry to the hive; the sooner the better for the collection of honey. This one has two racks on; one is filled, but not all sealed. It is not for want of room to work that they swarm, but it seems that the communist council wills that they should rear queens and try to colonise the earth with bees. One day this week one huge swarm came out at dinner-time. As soon as it was shaken in a skep and placed under a tree, one of the staff came up in a hurry from the valley, where I have the hybrids, stating that they were swarming. When I got there on the bike it was to see a cloud of bees sailing across a 36-acre field of uncut grass. I picked up the skep I had there ready, and did a double across the field into the road. As they came over the hedge into the road I threw clouds of dust over them with my hands. I suppose that made their wings a bit heavy, and they were glad of a rest. Anyway, they clustered on a hazel bush, and soon were in a skep and placed under the shade of the hedge. On getting back to the farm again another lot was hanging in close proximity to the new stocks I had bought from Wareham district (I am keeping the stocks from the different districts separate). These I shook into a box, as all hives I had made ready were full. All of them have plenty of room to work, yet they will swarm. It is somewhat exasperating that they will do this, just in the full honey flow.

The trees of lime are now in blossom, and most of the bees go in that direction. It happens to be over the highway, and I notice the drivers of horses find them in their hair and whiskers as they pass the farm.

At South Lychels Manor (the home of Sir John Lees) the limes are a great height, and cover a great space of ground. So many of them together give a great deal of honey from the thousands of flowers. Mr. G. Dawe, the head gardener, has been in India as a soldier nearly three years. The second man is in Mesopotamia. All of military age are in the Army; only old men left to carry on till the war is over. I have supervised this beautiful place in their absence for Sir John, who was wounded in the early part of the war. He took part with the first Expeditionary Force at Mons. His elder brother, Sir Thomas, was killed in the Dardanelles with the Dorset Yeomanry.

This is a most delightful place; trees from all parts of the world grown to a great size. Camellias out in the open cover a great space. There are two walled-in gardens, planted with the choicest apple, pear, plum and cherry trees.

The two young Lady Lees' have taken to the craft of bee-keeping through reading Maerterlinck's delightful book. I hope they will be successful bee-keepers. To-day I notice the well-educated and leisured classes are turning to work of a useful character—rearing ducks and chickens, planting and training fruit trees, all adding to the food products of the country now the young manhood is waging this terrible war.

My oldest son is safe so far, and the third one, in the Dorset Yeomanry, is in the Holy Land, away round Jerusalem. He writes that he is safe. My youngest is 19 on July 1; he will soon be drafted off to the front to take his share in upholding the prestige of our great Empire. May the great God, to whom the earnest pray, help the Allies to end this campaign soon.—J. J. KETTLE.

BEE NOTES FROM FRANCE.

Wandering leisurely round about at the present time, one is struck by the wealth of honey-producing flowers to be found in the lanes, and fields, and amongst the corn. One's thoughts naturally turn to one's bees at home, while the thought strikes one: If conditions are the same, what a fine honey harvest there will be at home this season!

Home! Ah! how sweet the word sounds out here! The season was very late to commence this year, as it was well into April before the willow palm (so eagerly sought for by the bee-keeper for early pollen) began to flower. However, the nice warm, sunny weather we had towards the end of April and early in May soon put the season right, and by the middle of May the fruit trees were a picture. There seemed no room for foliage, the trees being one mass of bloom. Almost before the fruit trees had shed their blossoms the hawthorn was out. Then came one of the farmer's enemies, charlock, and that seems to have thrived remarkably well round here this season, the yellow showing up in the distance, acres upon acres, one yellow carpet. It is now getting over, but to compensate for the loss of that comes one of the best of all honey-producing plants, the little white clover, of which there seems a nice lot about, and during this next week it will be at its best. I must also mention the glorious weather we have had to enable our little friends to get out and gather in that finest of all sweets. The harvest this year should truly be a good one. In addition to the field flowers, the wild thyme, wild mignonette, and privet are very plentiful in the lanes round here. On June 13 a fair-sized swarm came over our hospital. I followed them a short distance, but as time was not my own I had to let them fly on, and get back to work myself. I have as yet only seen three stocks out here, and those in the old-fashioned skeps. The skeps are taller than generally seen at home, and are made of thin wood similar to the chip-baskets so commonly used for fruit-packing.

PTE. E. JEFFERY, 87158, R.A.M.C., B.E.F., France.

A WONDERFUL CITY.

THE LIFE STORY OF THE HONEY BEE.

By Oliver G. Pike, F.Z.S., F.R.P.S.

(*Continued from p.* 192.)

Upward goes the Queen followed by a hundred Drones. Up, up into the eternal blue; up, still up, the eager throng of Drones following. Up until the trees below her are like dark specks on a carpet of green, until the meadows and waving woods grow smaller, and look like a vast chequered carpet of mixed colours. Up where the air is purest, and cooler than the atmosphere below. Up towards the sun, that is loved by man and insect alike. Some of the Drones, fatigued and frightened, drop behind; some tired and even exhausted close their wings and fall down into the abyss. Others return to the hives below, where the abundance of open cells of honey, and the big coloured flowers still offer them a life of laziness. But up goes the young Queen still, to a region untenanted by swallow or lark.

The Drones draw closer to the Queen, but the free, cool air gives her fresh impetus, and up faster still she leads in this race to the skies. Her wings do not seem to tire, more Drones drop behind, and the end of the long race is that only one is left. He meets the Queen, and, strange to relate, a few moments later is dead! This magnificent insect that only a few moments before was winging his way skywards in the full enjoyment and strength of life, is now a lifeless body, and is falling and tumbling ignominiously into the ocean of air beneath.

It is said that there is a wonderful tropical plant that blooms once in a great number of years, but when the flowers appear, it is for beauty proclaimed the fairest queen of the forest. A great head of crimson bloom bursts out, high over the lower shrubs around. The thousand flowers make a great show of glory for a short time; then each of the numberless flowers drop, and those that reach the ground grow up, and in their turn bloom, but the parent plant, immediately after giving the flowers, dies. Thus we see that in the giving of life there is death.

There is a charming old legend told of that great strange bird, the pelican. It is only a story, but none the less beautiful. The young of the bird were in a great sandy desert, and for the want of water they were exhausted, and could not fly. Their mother went off to a distant lake, and after flying hundreds of miles, was able to fill the big pouch under her beak with water; then on her return to her young she just gave them this precious liquid, they revived, but in giving them life she died. Some of the butterflies that live a life of enjoyment in the happy hours of summer, and make the

shady alcoves of the wood, or the sunny meadows, and flowery roadsides so much more joyful, just flutter their little lives away in happiness, then lay their eggs, and almost immediately die. There is so much pleasure in the realm of wild Nature, but also so much death—cold relentless death, in the giving of this.

And so it is when the Drone meets Queen, one moment life, the next death. The young Queen, now alone in the infinite vault above, hurries back to the hive. The awful solitude may frighten her; she is such a small, insignificant creature in the silent empty space around. Her head is pointed downwards; those rapidly vibrating wings which carried her to her wedding in the sky, now just as rapidly carry her back to the hive. Down she comes, darting past the singing sky-lark; slipping by eager swallows; over the tree-tops; dashing past the flowers, and at last trembling and exhausted, she alights on the threshold of the home she is destined to people. Her one short holiday is over, and for the rest of her existence she does nothing but search for empty cells in which to lay eggs. The Workers show no especial excitement on her return; some go forward and look for a moment at their Queen, and at once recognise in her one to be respected and cared for. She walks soberly in and attendants come forward and lick her body, they stroke her with their antennæ, while others offer food, and from this moment until her death she takes no food herself, but is always fed by her "ladies-in-waiting," and in less than a week the new mother begins her unceasing work of peopling the City.

CHAPTER XIII.

THE DESTRUCTION OF THE DRONES.

When the young Queen has settled down to her business the work of the City goes steadily forward. As day follows day, honey is brought in and stored; pollen is gathered and packed into the cells. Each kind of honey is kept distinct, that from the white clover is kept in certain cells, that from the limes in other cells, and so on; none of it is mixed, and so with the pollen, the bright yellow powder from one kind of flower is kept quite distinct from the deep red pollen from another. Thousands of young bees are daily brought to life, and thousands of their hard-worked sisters perish. At length the time comes when the spirit of summer, which has been leaving a pageant of glory behind her, as she wandered aimlessly over woodland and meadow, meets her kindred spirit autumn, and although sunshine and golden glory are still spread broadcast over the land, yet the flowers which yielded the sweetest honey are fading, and others without a supply of nectar take their place. The City is packed with food; the masons travel over the walls, sealing down with a waxen covering, the cells which contain the gifts of the summer which has gone. Everything is made tight and secure, and at last these busy Workers have ceased to bring in nectar, and the honey-flow, as bee-keepers call it, is over, then a terrible signal goes through the apiary, not only one hive, but, maybe, fifty, that the hour of slaughter has arrived.

These big indolent Drones are to be killed. During the springtime hours and blissful days of summer they have had a pleasurable existence; they have fared sumptuously every day; a life of countless pleasures has been theirs. No labour or hard fight against rain or troublesome resisting winds has fallen to their lot. No anxiety about storing food for future days has worried them; they have had a self-satisfied existence, and now their halcyon days are over.

One feels sorry for these big, simple looking creatures. Their important pomp as they dash about the hive entrance always attracts our attention; a hive without them has half its life missing.

About the end of August or beginning of September a word of command goes out from the hive, that the doom of the Drone is at hand. The heavy well-fed creatures go out into the sunshine this bright autumn morning, with the same unconcern that was attached to them during the other days of their existence.

There is thus no sign in this still autumn day to tell them that their death is near. The flowers of the field and garden are just as gay, although less plentiful, the sky is just as blue, and the sunshine just as warm as heretofore. The unwary good-natured creatures with their same old pomp, push the Workers aside, and in some measure still upset the work of the City. But their sisters cannot quite tolerate their idle existence and self-importance any longer. The flowers have ceased to provide nectar; the cells of winter's stores are sealed over, only a few open honey-vats remain. The Drones, whose existence is now no longer required, are doomed; and at length, with angry buzzing and bristling stings, three or four of these Workers, who have been models of patience for so long, now pounce on each fated Drone.

(To be continued.)

KENT BEE-KEEPERS' ASSOCIATION.

WESTERN DIVISION, SEVENOAKS DISTRICT.

A lecture and demonstration will be given at Combe Park, Sundridge, near Sevenoaks (by the courtesy of Robert Mond, Esq), at 5 p.m. Lecturer, Major F. Sitwell. All persons interested are cordially invited. Full list of lectures during July will be given next week.

JOTTINGS.

Dealing with Swarms (*p.* 176).—Without attempt, or presuming to say what actually were mistakes in what was done or left undone, we might certainly exchange a few thoughts on this important subject, in order that someone may pick up something, to say nothing of the interesting incidents that constantly occur in the hiving attempts.

I had a similar experience a year or two ago. A very fine swarm was hived, and to all appearance it was happy in the early evening; but the next evening they had gone, and left no trace or hint as to where they might be found. In this case I had inserted a comb of their own honey to help them. Whether they thought it a bribe I don't know. It appears that, however amenable they may be to the claims of young bees, or brood, they will not be bought into subjection by their own sweets. I should certainly expect to find them at 7 a.m., though, one must think, "they had already prepared their new home." But the coincidence of the second attempt makes one wonder had the hives been recently disinfected, and was this too strong? if so, had they been sweetened by another dose of soda, with exposure to the air?

Also, I take it, the two swarms had mixed. The two queens at that time in possession might have caused an unsettled state, as well as the two dominant *scents*, but they still seemed ill-pleased with the *hive*, and this, we presume, gradually wore down, by fanning and extra room. One queen might have been secured on examination of the outside of skep, as she had evidently stopped there.

I have wondered if an extra day's confinement, in sultry weather, in a very cool, dark place would help, but this should not be necessary where the bees have travelled, or a comb of brood is available; but we have scores of cases every year where the bees have already looked out for themselves; something wants trying. I think we might do a great deal more by way of practising artificial means, especially in these days of few numbers. The writer has sold a nucleus from every hive but one, which is working down from a box. Of course I don't recommend this wholesale, but my bees now get very poor attention. I may have had some honey; I should certainly have lost swarms, and in two cases there is apparently no difference in the numbers, unless one knew. Another thing that wants attention is the accommodation of egg-receiving cells. I have had to take about eight combs from five hives, containing some 25 lbs. extractable honey, for home use. My war method of extracting these combs is: Scrape cells off with care into a coarse strainer, and wash remainder in tepid water, for mead, or vinegar, the mid ribs go back to the bees. It is astonishing how thick some of the little "jackets" have become, which, to my mind, is enough in itself to breed a deteriorating bee, as we must remember the space inside cells gets smaller with use. Of course one should take at least three combs each year to be renewed. Artificial methods seem to be the cure for so many ills of haphazard management, but I suppose this is assisted by extra study and work, which we all have not the patience, or time to adopt, but really less time is needed when one knows their "book." This may be thought a fresh subject, but early and unexpected swarms are so often traced to this source, It is well to think about it. It might mean an extra rack of sections, as the bees will work up to the last moment if they have work to do, and a steady flow of eggs and bees coming in.

Joining Up.—The enthusiast will mark the progress and plans of the Kent—one might almost say — "Federation." Favoured with beautiful agricultural areas all over the county, it is evident they intend to take full advantage of the present boom, and, although doing their quota of war work, are not waiting for peace, to see what comes along, but are forcing the pace, and not only enrolling members, but whole districts. This is all accomplished by the few red-hot members who believe in what they join and do something to show it. The old days of the annual "show outing" are past; the new idea is to secure business, food, and progress in bee-keeping for Britain. Every new member knows some friend who might be interested, and whatever view some of our old friends may take there is no danger of over-crowding yet.

A. H. Hamshar.

RECIPE FOR NETTLE BEER.

A correspondent asked for this a little time ago, but we did not have one at the time. The following is from the *Farmer and Stockbreeder*. We should say that honey might be substituted for the sugar.

After repeatedly washing a good pailful of young nettles, cover with water and boil for about two hours with an ounce of bruised whole ginger and the thinly pared rind of two lemons. Strain, add 1lb. of sugar, the juice of the lemons, a ½oz. of cream of tartar, and boiling and cold water to make up two gallons of lukewarm liquid. Stir in three or four tablespoonfuls of yeast, or from one to two ounces of compressed yeast mixed smoothly with warm water. Keep it slightly warm for a few hours, and bottle next day.

ON PREVENTION OF SWARMING.

(*Continued from page* 201.)

Now, as regards the principle on which I work to prevent swarming, every tyro knows that young queens produce the best results the second year; I, therefore, have young queens only in all hives autumn count, and winter under ticking, then two layers of felt, and a cork-dust cushion on top of six to seven frames of comb well provided with stores. In the following spring, March-April, I substitute American cloth under quilts for the ticking, and feed on a little honey where necessary to stimulate breeding. As soon as the hives become crowded, I raise the division board, and when the bees commence to cluster behind same, add a frame of empty comb on the outside of brood-nest or in the centre, and keep on adding same as required till brood chamber contains ten combs. When the last comb goes in, I raise the whole brood chamber ⅜ in. by putting a frame made of laths under end and sides, leaving front open for more ventilation; then, according to the state of weather, I leave alone for a week, and if I then find that the hive is full of brood I remove two or three combs with young bees to form a nucleus, and substitute either empty comb or foundation, and at the same time put on a super of shallow frames if honey is coming in. The super I cover in warmly at sides with felt and place cork-dust cushion on top, which I consider essential for keeping the super warm during the night. On very hot days, I slide the roof forward, and as there is an extra ⅜ in. space for ventilation under the brood-nest, I never yet had the bees hanging out; of course, on warm nights, a good many are fanning at one side of entrance, which is only natural, to drive out the excessive moisture of the nectar brought in during the day. The hives I use are W.B.C.'s, and in order to more clearly illustrate my working, I think I cannot do better than append below my this year's notes for my No. 1 hive; they are as follows:—

No. 1 Stock.—Bees—goldens. 1916 queen, late August; three-frame nucleus assisted by two combs of brood from another hive and wintered on six frames.

March-April.—Fed on sections of honey.

April 25.—Replaced ticking by American cloth and added one frame empty comb on outside.

May 2.—Added one ditto.

May 13.—Put one ditto in centre.

May 20.—Put one frame foundation in centre making ten frames in all; put on super 8 shallows and raised brood-body ⅜ in. at sides and end.

June 2.—Super three parts filled, so put further super eight shallows under first, and as brood-chamber full of brood took out two frames of brood for nucleus, replacing same by two frames of empty comb.

These notes will speak for themselves.

Since then the bees have been revelling in the sunshine, and the first super is nearly completed.

A second hive treated on similar lines is in similar condition, and both hives did not at any time show a tendency to swarm, although the weather has been very trying.

When commencing supering, I prefer to start with shallow frames, as the bees will readily take to these, whereas if sections are put on they linger and evince a dislike to work through all the narrow

openings, preferring to store in the brood chamber, thereby limiting the queens breeding space with the inevitable result of swarming.

The Americans, in order to prevent the escape of queens, I think practise largely the cutting of the queens' wings. I do not think there is much advantage to be gained from this, for, in the first instance, should a swarm issue during one's absence, the queen, being unable to fly, will fall to the ground and be lost; and, in the second, it sometimes happens, on the bees discovering that their queen is not a perfect queen any longer, they will dethrone her and raise another, thus causing a loss of three weeks' egg-production to the colony.

Then there is Brice's swarm catcher which, no doubt, has rendered its inventor and others excellent service; I think, however, we can do without these devices if we follow the advice so often empha-

sised by the Editors of this Journal, viz.—keep your colonies strong, headed by young queens, and always give them extra room a little ahead of their requirements. I have acted upon this advice, and the result has been most gratifying to me.—O. Puck, Chingford.

"A SWARM OF BEES IN MAY."

"A swarm of bees in May
Is worth a load of hay"—
So keep your skeps out handy,
Or else they'll get away.
Blue sky full of fair winds,
Meadows full of sweetness,
Gardens all a-blossoming—
Your bees may get away!

"A swarm of bees in June
Is worth a silver spoon"—
Just take your key and dust-pan,
And "ting" the swarm a tune
Way down in the garden,
Gay with red Sweet William.
"Ting" your bees a summer song,
For well they love a tune.

"A swarm that's in July
Is hardly worth a fly"—
But feed them through the winter,
They'll pay you by-and-by;
When the spring awakes them
To the sunny orchards,
And they gather in their gold,
They'll pay you by-and-by.

E. S. F.

CORRESPONDENCE.

EFFECT OF SPRAYING WITH BACTEROL.

[9465] The query raised by E. G. Staygle in your last week's issue (9063) is an important one, but evidently there must be some other reason for the failure than that given, viz., spraying with a weak solution of Bacterol.

Some time ago you allowed us to explain through your columns—which we have found to be so widely read throughout the bee world—that our company had been formed by medical men and other gentlemen interested in the alleviation of human suffering, and that our energies were practically confined to supplying the medical profession, veterinary surgeons, and dentists. That the common type of Bacterol—general Bacterol—was found to cure "Isle of Wight" disease was entirely due to Mr. E. A. Glen, of Chingford, who has, we are glad to say, over and over again confirmed his first severe tests. No claims are made by Bacterol, Limited, that we understand bee-keeping or the diseases of bees. We are informed by experts that "Isle of Wight" disease is caused through a sporing micro-organism, and knowing that Bacterol has a decided action against all sporing organisms we were not surprised to hear of its efficiency in curing this particularly resistant bee disease. We are all interested, however, in helping forward investigation into causation and cure, and we should like at this point to express our appreciation of the care and thoroughness of the experiments made by Mr. J. Price, which have been inserted in your columns from time to time.

In order to help in solving the query raised by your correspondent, we can definitely state, from extensive experiences of surgeons and medical men on human beings and animals, that Bacterol has no detrimental effect upon living tissue. For instance, septic conditions associated with the most severe wounds are cleared up in a remarkable manner, and at the same time the leucocytes are greatly stimulated and phagocytosis is promoted. For some as yet unexplained reason, Bacterol only seems to kill disease-producing organisms, whilst stimulating the leucocytes. We can only infer, therefore, that the reason for your correspondent's trouble must be found in some other direction as Bacterol is non-corrosive and non-poisonous.

Your correspondent omits to mention points which may have a direct bearing upon a solution. For instance, were the bees diseased or healthy; were they weak or strong, so that during the spraying the eggs and young brood were fully protected or not by the covering bees?

It has been suggested to us that bees suffering from "Isle of Wight" disease are incapable of queen raising. In any case, the two queen cells in five unsprayed combs seem a very poor number, and it would be interesting to learn if they hatched out.

J. G. Sparkhall,
Managing Director, Bacterol, Limited,
19/25, Brookside Road, Highgate, N.

MAKING HIVE ENTRANCES WASP PROOF.

[9466] As we shall soon be having the wasps around the hives again, perhaps the following simple method of rendering hives proof against wasps, robber bees, and mice, at the same time allowing ample ventilation, may be of some use to your readers.

Pieces of perforated zinc, about 4 in. long and 1 in. wide, are nailed to the ends of the entrance slides. A small strip, about 1½ in. long and 4 in. wide, is cut

away from the lower edge at the end of the zinc, and the slides are now placed in position and pushed forward so that the pieces of zinc overlap each other. I found if the ends are left square and just butted up to each other mice can force an entrance. If the slides fit tightly, I cut a small piece of the wood away so that the zinc is let in level with the face of the slide.—F. Cox, Wisbech.

CO-OPERATIVE BEE-KEEPING.

[9467] As a member of the Middlesex Association I have frequently wondered whether something might not be very profitably done to increase the membership, not only of this but of other associations, by adopting some scheme of Co-operative Bee-keeping.

There must be many people in our urban and sub-urban districts who either have been under more spacious circumstances than their residence will now admit, or who would be, were space available, ardent supporters of the fascinating hobby of bee-keeping.

It seems to me that it would be quite feasible for an association to acquire a fairly central plot of waste ground—ground unfit for cultivation would answer the purpose—and by making a small rental charge per hive get a sufficient number of tenants to justify any expenditure, or risk, the association might incur.

A small percentage of the product, say, 5 to 10, might be handed over each season to defray any loss incidental to the working of the scheme; an advisory supervisor, who should, of course, be a first-class expert, could thus be reimbursed for services given, and a community of good fellows would have a common ground on which to meet for work, or recreative lectures, demonstrations, etc.

Details of such a scheme would, of course, have to be carefully considered by a committee of Association members before the scheme could be got into working order. One detail, however, I think, would have to be an inviolate rule that any stock condemned by the Association's expert must be forthwith removed from the apiary and the loss to the member made up by toll taken from remaining healthy stocks—say, one frame per member, whose stocks could bear the reduction—and members once thus taxed to be exempt till all other members in turn have been subsequently called upon.

The co-operative idea would in this way be carried out, and, briefly, the co-operation may be shown by a glance at the following table :—

I. Common ground-rental proportional to number of hives kept.

II. A fixed percentage given by each member to the Association.

III. An advisory supervisor.

IV. Mutual insurance against loss through disease.

As this is only a preliminary outline of what I consider might be developed by older and more experienced bee-keepers than I can lay claim to be, I will not enlarge upon the possibilities of co-operative trading—both buying stock and selling produce—but the scheme would admit of great advantages in that respect and also in other ways.—C. W. Mullen.

WEATHER REPORT.

Westbourne, Sussex,
June, 1917.

Rainfall, 3.21 in.	Minimum on grass, 30 on 3rd.
Above aver., 1.13 in.	Frosty nights, 0.
Heaviest fall, 2.58 on 28th.	Mean maximum, 70.
Rain fell on 11 days.	Mean minimum, 57.
Sunshine, 254.2 hours.	Mean temperature, 60.5
Above aver., 25.5 hours.	Above average, 3.6.
Brightest day, 4th, 14.8 hours.	Maximum barometer, 30.339 on 3rd.
Sunless days, 1.	Minimum barometer, 29.612 on 20th.
Maximum temperature, 83 on 17th.	
Minimum temperature, 40 on 26th.	

L. B. Birkett.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

"S. W. L." (Staffs.).—*Uniting Nucleus to Queenless Colony.*—Your plan of shaking out the bees of both lots in front of the entrance to the hive you wish them to occupy will work all right, but both lots must be well dusted with flour before uniting, and the queen must be caged on one of the combs for twelve hours. You may use ordinary household flour or pea flour.

Drone Breeding Queen.—The brood of a drone breeding queen will not be scattered like that of a laying worker, the eggs will be laid almost as methodically as those of a fertile queen. We should say the few cells of drone brood were from the last eggs laid by the old queen before her departure with the swarm. If there is no

queen it will be quite safe to introduce one, a fertile queen if possible. Cut out any queen cells that may have been started before introducing the queen.

"H. M. R." (Surrey).—*Danger to Bees from Potato Spraying with Bordeaux Mixture.*—There may be a danger of the bees taking the mixture under certain circumstances. If the potatoes are near the hives and the weather is dry the bees may collect the moisture when the spraying is done. We have not heard of any case where it was certain that the bees were poisoned by taking the mixture, but we have heard of one case where there was a very strong suspicion of that being the case. Will our readers report any cases where there is a suspicion of poisoning from this cause, and the symptoms?

Bees Swarming without Queen.—A swarm may issue without the queen, but on discovering that she is not with them the bees will all promptly return to the hive. If your bees swarmed, *and did not return*, they had reared another queen.

H. S. ROBERTS (Wick).—*Using Glucose for Feeding Bees.*—This is not suitable for the purpose; either honey or cane sugar should be used.

"R." (S. Devon).—*Italian Hybrids v. Dutch Bees.*—Better stick to the former, or you will be "out of the frying pan into the fire." Dutch bees are very like natives, their greatest fault is they are given to excessive swarming. Of course, individual stocks will vary in this respect, but some of them will beat your hybrids hollow at the game.

"LEIGH" (Kent).—*Charge for Visit of Bee Expert.*—The usual charge is 1s. per hour with a minimum of 5s. per visit. Travelling expenses extra, and the time travelling is counted. Carniolan queens are not imported at the present time.

J. WATT (Aberdeenshire).—*Width of Perforations in Queen Excluder.*—5/32 of an inch.

R. B. MANLEY (Wallingford).—See reply to G. M. Thompson and others in BRITISH BEE JOURNAL last week.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1d. per word as "Business" Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.

PRIVATE ADVERTISEMENTS are only intended for readers having Surplus Stock to dispose of. Driven Bees, Nuclei, and Queens that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FOUR young surplus Dutch Queens, guaranteed healthy, 4s. each, registered post free. J. MOORE, Bleasby, Notts. h 1

WANTED, 4-frame Nucleus, English 1917 queen, guaranteed healthy; state price.—MORRIS, 13, St. John's-road, Putney, S.W. 15. h 2

DUTCH BEES.—A few second swarms, 1917 queens, 10s. 6d. and 12s. 6d. each, according to size, box and carriage 1s. extra. — W. WOODLEY, Beedon, Newbury. h 9

FOR SALE, two Stocks special Hybrids, on 10 combs, 1917 queen, at £2 17s. 6d. each; two early June Swarm Hybrids, now on 7 combs, at £1 10s. each; one early June Swarm Hybrids, on 10 combs, at £2 10s.; purchaser pay half carriage and return box.—Apply, H. E. BLACK, Lawn-road, Uxbridge. h 11

WANTED, one or two Swarms of good healthy Bees.—Price and particulars to KERR, Lea-road, near Preston. h 3

TWO Nuclei pure Italian Bees, on 6 frames, 1917 queens, £2 each, f.o.r.—APIARY, Burton Latimer, Northants. h 4

FOR SALE, three good Bee Hives, clean, two want painting.—MATTHEWS, New North-road, Barkingside. h 5

1917 White Clover Honey, full flavour, sample 4d., 196s. cwt., 28lbs. tins free. — JOHN FLOWER, Bungalow, Owslebury, Winchester.

DOUBLE Wall Hive, complete, Association size, with 10 frames, dummy, deep lift, all good, two divisible bodies fitted up, complete as supers, sections, frames, dividers, and 21 section crate, excluder, new sections, new foundations, lot 12s. Wire Veil, Bingham Smoker, 4s. 6d.; three Porter Escapes, forty metal ends, lot 5s.—ISLINGTON HALL, Kings Lynn. a 7

BEES WAX, in any quantity, 1s. 9d. lb. given. —CHARLES FARRIS, 71, Bishopsgate, London, E.C. 2. a 8

HOME-MADE Hives for sale, floor-board, calico covered roof, two lifts, two shallow frame racks, all parts interchangeable, 10s. each.—BUTTON, Castle Camps, Cambs. g 53

DUTCH Bees for sale.—3-frame Nucleus, 25s.; also six W.B.C. Section Racks, nearly new, 4s. each.—SEALE, Hardumont, Oatlands Drive, Weybridge, Surrey. g 41

SWARMS of healthy reliable Bees for disposal.—Apply, STANLEY, Pulloxhill, Ampthill, Beds. g 37

BUSINESS ADVERTISEMENTS.

CHOICE PROLIFIC ENGLISH QUEENS, 1917, from non-swarming stocks, tested and selected, 6s. each; safe arrival guaranteed (13th year). Illustrated work, "How to Prevent Swarming," with many photos of bees and their work, 7d. All post free.—WILKES, Four Oaks, Birmingham. a 4

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

ITALIAN Queens, direct from Italy.—Address: E. PENNA, Bologna, Italy. One pure fertile Italian Queen, May, 5s.; June, July, August, September, 3s. 6d.; Queens sent post free; safe arrival guaranteed; cash with orders. Addresses to be written very clearly. Special offers are countermanded till further notice. I book in advance orders with cash for Queens to be delivered in July at ordinary prices. Cash should be sent by English postal order, made payable to E. Penna.

HONEY required, extracted and sections.—Particulars to GIBSON, Chemist, West Hartlepool. h 6

YOUNG Fertile Queens, price 7s. 6d. each.—PRYOR, Breachwood Green. h 7

STRONG 10-frame Stocks for sale, ready for supers, young queens, Italian first cross, very gentle, good honey gatherers, guaranteed healthy, 45s., carriage paid.—HILLMAN, Expert, Bridge House, Stonehouse, Glos. h 8

BRITISH BEE-KEEPERS' ASSOCIATION.

LECTURES AT GOLDER'S HILL PARK.

Free popular lectures and demonstrations will be given at the Association's Apiary in the London County Council's Park, Golder's Hill, London, N. (nearest Station, Golder's Green Tube), on July 13, at four o'clock p.m.

W. HERROD-HEMPSALL,
Secretary.

A DORSET YARN.

This week the bees at the Violet Farm seem to be flying all one way, in the direction of the limes. Never have I noticed sections drawn out so quickly as now, but the honey has not so tasty a flavour. One section we had at tea to-day, July 7, had on one side a rich amber colour, and on the other a very pale, thin honey, not all sealed over, which I assume was collected from the limes just across the road. Bees are not so much on the clover now; but the blackberries near our farm are a continuous roar with them. A brother bee-keeper tells me the bees get a great deal of honey from the sweet chestnut, but they are too high up for me to see or hear if it is so.

Swarming is not yet over. One that I gave a rack of drawn-out shallow combs for a brood nest has left it twice (once to-day). Each time I sent them back in the evening. A good many of the swarms I have put into shallow boxes, with a thin piece of wood on the top tacked at the edges to allow the section racks to rest evenly on the top, and allow bee space, so the bees get to all the sections. I make two or three slits in the top to let the bees through, when they have filled the box. I cover this with a small piece of board to keep them in when hiving them; when in position on floor board I draw out the small tacks and take away the board and cover with a piece of glass, which lets one know what progress is made, without turning them up to look; these always with me winter more sure than do the bar frames.

I have one lot in a deep Californian canned fruit box of red wood. I put in a few bars with starters of brood foundation in the centre (this box was 4 ins. deeper than the standard bars used). Bees were hived in July last year; this week it made preparations to swarm. I have a board in front and they were lying over this board in huge numbers at dinner-time. Watching where they were thickest I saw the queen mother preparing to fly, was able to secure her, and in a short time the bees all did a right-about turn and went back. They have since gone on with the collection of honey. The deduction I have come to is that the box being deep as well as wide they have been a long time filling the space before swarming. What is remarkable to me is there are but a very few drones; usually when they fill up in their own way there are a lot of drone cells built! Now when one is near this hive, one can hear the clicking of legs against the sections, day and night.

There were two strong swarms out the last week in June on one day, and they were placed in position about 4 ft. from each other in a line with the others. On Sunday, July 1, I saw a queen laid out on the front and a most unusual song going on within the hive. I took off the top to see through the glass. They had started drawing out the starter foundation more than 6 ins. along the top, they were running about, all had the same unusual hum. I suppose it was a dirge—in the minor key—or lament, like the Scottish people play on the pipes when the head of the Clan dies. Then, while I was watching through the glass, they changed the key to the major, and all came racing out at the double, flew round and round in the mad gambol of swarming, then made a charge for the next box (there is no case over the brood box); they did not enter in files or companies, but the whole lot charged simultaneously. What could not get in covered the box entirely, then, turning towards the entrance, all moved in close formation till the greater part was inside, then around the entrance the rear company kept guard and challenged every other bee that came to the entrance. Taking off the glass of the colony that was attached I expected to see a battle royal going on, but there was only extra commotion within. Now the colony is a mixed lot, for the attacking lot were English black, and very black, their abdomens are black and acutely pointed at the end (not brown and stumpy as are some of my stock). The colony that was stormed were hybrids, very pretty bees, with one or two orange bands round the abdomen, like wasps—the males are very large and very beautifully shaded across the abdomen.

I assume they thought discretion the better part of valour, and did not put up a fight, or they recognised the English black as the dominant race and submitted; the double lot has covered all the bars since, and I am tempted to try a rack of sections over them.

It is wonderful to me how they should

know that to storm a citadel it must be done with weight of numbers. I have noticed the same with the slave-raiding ants, *formica fulva*; when they raid the nests of the blacks, all move off in the same close formation till the whole grass round the nests of the blacks is covered with the yellow ants. They put up a fight, but weight of numbers tells, and one can see the conquering army returning to their own city with the young pupæ of the blacks in their mouths. These young blacks tend the young of the yellows, and are, or seem to be quite contented.—J. J. KETTLE.

THE FALSE ACACIA.

A correspondent asks for further particulars of this tree, mentioned by Mr. J. J. Kettle in "A Dorset Yarn" in BRITISH BEE JOURNAL of June 21, and in response to our request Mr. Kettle has sent the following:—

The false acacia, though a forest tree, belongs to the Leguminosæ, or pea, family. The correct name is "Robinia pseudacacia," sometimes called the locust tree or bastard acacia. In Cassell's "Natural History of Plants" it is on page 279; in Cassell's "Popular Science" it is on page 57, vol. 1.

It is often planted in avenues, and cut back each year; it then makes six to ten feet of growth each year, like long palm leaves. When as a boy collecting insects, the great difference by night with these long branches and their leaves all hanging as if in sleep, and by day all of them in their original position, was an early lesson to me of the wonderful works of God.

When allowed to grow naturally it attains to a great height and flowers profusely, but the flowers are somewhat ephemeral, and last but a little time. The bees work them so well, and they close up as soon as they are fertilised; that is so with all flowers, they last longer when not fertilised. One of the orchid family lasts perfect for eighty days when not fertilised, but less if fertilised.

BEE-KEEPING AS A COUNTY INDUSTRY.

ACTION BY THE STAFFORDSHIRE EDUCATION COMMITTEE.

The Staffordshire County Education Committee, which is one of the foremost education authorities in the country, is considering whether any steps can be taken to encourage bee-keeping as an industry in the county. That authority invited bee-keepers of the county to attend a conference at Stafford on Saturday and there was a remarkably good attendance. The Rev. Preb. Dunkley, chairman of the Education Committee, who presided, remarked that there might be some question as to whether the present was a fitting time to start a new venture, considering that the country had been swept from end to end by the "Isle of Wight" bee disease, but the Committee was willing to do whatever it could to support so important an industry, if it could be shown how it might help.

Col. A. H. Heath, chairman of the Staffordshire Bee-keepers' Association, stated that the Committee of the Association had met previously to that meeting, and they had passed two resolutions urging the County Education Committee to establish a central apiary, perhaps in connection with their farm institute, and to appoint a small sub-committee to meet a small sub-committee of the Association to confer on the general position. He moved that the meeting should adopt those resolutions. He thought this was an opportune time to take the matter in hand, especially in view of what had happened in connection with allotments. As a colliery proprietor, he and his partners had before the war offered land to their employees, but they had very few applications. Now, however, when the necessity was brought home to them of growing potatoes or they might get none, they had hundreds of applications for land. Now also that there was a shortage of sugar, they might find far more people willing to take up bee-keeping and thus produce their own sweetener. Cottagers might make their rent out of bee-keeping.

Mr. Johnson, of Stafford, remarked that 50,000 lbs. of honey was being lost in the county every year through the neglect of bee-keeping. His experience was that they had little to fear from "Isle of Wight" disease if they adopted "out-crossing" and bred carefully, so as to produce a strong race which could resist the parasite.

The Rev. Mr. Hibberd, of Needwood, observed that they very greatly needed an educational movement in regard to bee-keeping, so as to disperse ignorance and foolishness, and to show that bee-keeping could be started cheaply.

Mr. Homer suggested that three apiaries should be established by the county, in the north, mid and south Staffordshire, and Sir Graham Balfour, Director of Education, pointed out that there were 15 evening school gardens under the Education Committee's juris-

diction, in all of which apiaries might be started.

The general feeling of the meeting was that a central apiary might be established, from which bees could be supplied to those who required them, and an expert might give advice and help to beginners. Subsidiary county apiaries would follow. The resolutions were unanimously carried.—*Communicated.*

BEE-KEEPING AT THE FRONT.

Last May I sent to the BEE JOURNAL a short account of an apiary we had near our squadron. Since then I have found that this is quite a great centre for bee-keeping, for in this village where we are stationed—and it is a diminutive village, too—there are just upon fifty straw-skeps which came successfully through the winter. With such a large number in such a small space, I expected to see a great many swarms, and was not disappointed. Honey in May was scarce, and no swarms came out, although the weather was warm. The first was on June 7, and this settled in a hedge, but I was able to cut the branch out on which the bees settled, and hived it successfully in a box. I then set to work and made several rough hives, with glass sides, so that some of the wonders of the hive might be seen by those who were interested. We now have five swarms in these boxes, all doing well, and through the glass windows we can see the beautiful white combs being built, and most of us are looking forward to a supply of honey, which will be a welcome change to the eternal marmalade! When the war is over, never offer marmalade to a man who has been at the front—this is just a hint in passing!

We have had great amusement by watching the Frenchies take the swarms. When the bees are leaving the hive a most unholy din is made by the women folk beating tins and shovels, then usually a boy appears with a sheet, a small sieve, a pair of thick gloves, a bucket of water, and a big bunch of twigs with the leaves on. With this formidable array of instruments he sets to work. We will take the case of one swarm which settled round a stout branch high up a big cherry tree. I had already been up the tree, fixed a skep over them, and was about to drive them up, when below I spied an old woman performing a war dance. At first I thought she might be trying to "charm the bees," but I soon found out that it was the English soldier up the tree that was the cause of her excitement. She thought I was stealing her bees, and was hurling all kinds of awful threats at me in bad French and worse English.

Well, to prevent the old lady having a fit, I descended with my skep, and left the swarm for the others to take. The entertainment now commenced. The boy attached the sheet to the sieve, placed the latter over his head, using the fine mesh to look through, and the sheet itself was gathered up round his neck and body, the heavy woollen gloves were put on, the twigs were well soaked in the water, and with skep and twigs he attempted to climb the tree. His flowing robes got entangled in the tree, but after several attempts he reached the swarm, placed the skep near, and with the wet branches he swiped at the bees. Swipe is the only word I know to express his actions! But just as the bees were beginning to object the skep fell down. However, he still swiped at the insects and quite failed to dislodge them, and so descended the tree. In a few minutes he was up again, and I suggested that he tried to shake them down. This he did, and after three attempts they left, and settled in a hawthorn tree in three distinct bunches, and instead of clipping the branches off as might have been done, the tree was shaken violently and all were dislodged and fell upon the ground. Instantly two skeps were placed over the scattered bees, and a big sheet was thrown over the lot. We have watched them take other swarms in the same way. One morning three good swarms left their skeps at the same time, and the two largest united and settled in a hedge, and I was able to take them, and they are now doing splendidly. I have not yet been able to find the chief source of the honey flow, for meadows as we know them in England are scarce, and there is little white clover about. But the way the bees are working shows that honey is coming in freely, but in the whole of the vast landscape there are only three small hedges and a very few patches of grass land. One swarm that we followed made its way over the village and across our aerodrome, and at the moment that it crossed the latter an aeroplane was starting, and this cut right through the swarm, and I should imagine that the propeller accounted for many hundred bees. Practically no interest was taken in the bees of this village by the troops until the first swarm came out, but when I showed how easily the swarms could be taken and hived, and spoke of some of the wonders of the hive itself, then many in the squadron, officers and men, got the bee fever badly, and the result is that numbers of them have decided to take up bee-keeping when the war is over.—OLIVER G. PIKE, 12th Squadron, R.F.C.

CRIMSON CLOVER AND FRUIT-BLOOM POLLINATION.

VALUE OF CRIMSON CLOVER.

In a recent issue of the B.B.J. the writer of Dorset Notes seems to confuse crimson clover (*Trifolium Incarnatum*) with common red clover. The former is a valuable nectar-yielding plant, quite accessible to the bee, which gives a much-needed flow at a time of comparative scarcity, between fruit-bloom and white clover, although when beans bloom early bees seem to prefer *that* source of nectar, at all events in some seasons few bees are to be found on crimson clover. This year, on the other hand, as Mr. Kettle remarks, fields of this clover have been alive with the busy bee. *Trifolium Incarnatum* might with advantage be grown more extensively by fruit-grower bee-keepers as a green manure and feed for their horses or cattle, it can be sown after the spring and summer cultivation, between the tree rows, usual in an up-to-date plantation, has fulfilled its purpose of conserving the soil's moisture during the hot days of June and July, and will form a green carpet beneath the trees during autumn and winter. The plant should be ploughed in during March or April. Alternatively it may be mowed as a greenmeat in May, and the roots ploughed in at once, as this plant, unlike red clover, makes no second growth, but dies down speedily after mowing.

Whichever course is taken a strip down the tree rows should be left to bloom for the bees, and, if it is desired to re-seed the ground with the same clover, this bloom can be allowed to go to seed. When the heads are ripe cut the dry stalks with a sickle and scatter them over the alleys, already ploughed and harrowed, shake out once or twice, the St. Swithin rains will do the rest of the seeding, so providing the cheapest possible nitrogenous manure and supply of humus to the soil.

The question of the pollination of blossom is of the greatest interest to fruit-growers, and, as a correspondent says, while the recent article on the subject is most valuable, the list of apples self-fertile and self-sterile could with advantage be greatly extended. Such statistics, however, need the support of varied authorities and much experiment before they can be unreservedly accepted; e.g., growers of Lane's Prince Albert will hesitate to believe this variety self-sterile, coming into flower, as it does, after the majority of market apples have finished blooming; yet what a reliable cropper it is. Will not one of our agricultural authorities, or lacking their aid, some philanthropic grower, collect, sift and compile all the available evidence on this subject of pollination, more vital than ever to us now that the English apple market has by war legislation become the monopoly of the home grower? —RED CROSS.

KENT BEE-KEEPERS' ASSOCIATION.

(WESTERN DIVISION.)

Hon. Sec.: G. W. Judge, Barrowdene, Shepherd's Lane, Dartford.

LECTURES AND DEMONSTRATIONS FOR JULY, 1917.

July 14.—5 p.m. (North-west District). Lecturer: Mr. G. H. Barnes. Subject: "The Preparation of Produce for the Show Bench." To be held at "Graighead," Woolwich Road, Upper Belvedere (near Police Station), by the courtesy of Mr. and Mrs. Simms.

July 21.—5 p.m. (Midland Division). Lecturer: Mr. W. Herrod-Hempsall. A demonstration will also be given. This meeting will be held at the Museum Gardens, Maidstone. Further particulars from the Secretary of the Midland Division, Mr. J. W. Price, "The Outlook," Barming Heath, Maidstone.

July 21.—5 p.m. (Bromley District). Lecture and demonstration by Mr. G. W. Judge on "The Essentials for Successful Bee-keeping," to be held at "Wixoe," Southlands Grove, Bickley, by the courtesy of Mr. Gilby. (Near Bickley Station.)

July 28.—5 p.m. (Sidcup District). Lecture and demonstration by Mr. W. H. J. Prior on "The Preparation of the Hive." Meeting place not yet fixed. Members in district will be notified. Others who desire to attend apply to Mr. Prior, "Culham," Main Road, New Eltham, who is the district secretary.

Please reserve the above dates, as further notices (with the above exception) will not be issued during July.

A cordial invitation is extended to all bee-keepers and others interested in the craft.

ORGANISATION.—Since the issue of last notices a district branch of this Division has been constituted at Rochester, and a similar branch has been formed for the north-west area. Mr. G. Bryden, 46, Star Hill, Rochester, is the secretary of the former, and Mr. F. C. Hodgson, Sussex House, Avenue Road, Bexley Heath, the latter.

B.B.K.A. PRELIMINARY EXAMINATION.—It is proposed to hold an examination at Maypole House, Dartford Heath, in August. Members desiring to take this examination should apply to the Secretary for Syllabus, B.B.K.A. Fee, 5s. (members).

PRICE OF HONEY.—As a guide to members in the disposal of their produce, the retail market value of honey is approximately as follows:—Sections, 2s.; 1 lb. jars, 1s. 9d.; ½ lb. jars, 1s. each. Wholesale rates from 25 to 30 per cent. less. There is a good demand.

IMPORTANT!—Save your best samples for Honey Show in August next.

RESTOCKING SCHEME.—Good progress has been made in the production of nuclei. Approximately one hundred colonies have been formed at the three apairies, and a number have already been delivered. It is expected that many more will be ready in a few days. Members participating are urged to have their hives in readiness, and when advised to arrange to collect their colonies from the apiary. The Committee are hard pressed for time, and they look to members to help in this respect. Colonies held awaiting collection occupy accommodation urgently needed for the production of other nuclei, consequently they cause congestion and delay. Travelling boxes must be sent in advance for those colonies it is necessary to dispatch by rail.

CORRESPONDENCE

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

EXPERIENCE WITH "ISLE OF WIGHT" DISEASE.

[9468] I have been a reader of the BEE JOURNAL for over 20 years, and have a very large connection and wide experience, but the reason I have not written you before is the ill-feeling which has been engendered by some vaunting their opinion in the face of the actual experience of others, and no good can result.

Here is a case in point:—A bee-keeper told me most emphatically that the ground about his hives was covered by crawling bees with "Isle of Wight" disease, and the hives were nearly empty; he got some slacked lime, and, with a flour dredger, covered all the bees he could find. Next day there was not a crawler to be seen, and at the time of speaking they were in a strong and healthy condition.

Now, Mr. Editor, I contend that for me to express my opinion that the lime did not cure his bees, in the face of his experience that it did, would have been madness, and nothing but ill-will would have resulted.

I see our friend Mr. Price is "annoyed at suggestions that the 'Isle of Wight" disease can be cured in three minutes (mark the time) by the use of any drug," and says: "It requires constant application before you can report success." Why should he be "annoyed" because the experience of others differs from his own? Here is mine, and all the annoyance and argument in the world

would not convince me that Bacterol did not cure my bees, and that in a week to ten days, which was the time they were under treatment.

In 1915 I lost nine stocks. In the summer of 1916 I procured more. In the autumn of 1916 one stock on twelve combs became affected, and only two combs of bees and the queen were left. The latter being a valuable one I wanted to save her; I therefore sprayed those remaining with sweetened water and Bacterol (one teaspoonful to the half pint). I then united them to another stock, the queen of which I destroyed, and no further symptoms of disease occurred.

The stock wintered well, and the first week in May I had to make an artificial

swarm, as they were then covering eleven or twelve combs.

In reply to your inquiry *re* the effect of spraying upon eggs and larvæ, here is a case. The second week in May, Mr. Mason, Eastfield House, New Earswick, requested me to go and see his bees which were crawling all over the grass about the hives. I found the two badly affected with "Isle of Wight" disease with scarcely any bees left, but both had eggs and larvæ.

I advised the Bacterol method as in my own case, spraying every other day. On the 21st I found the bees about the same in number, also eggs and larvæ, those which I had seen previously being capped over; I then united the stocks, and they are now one of the strongest in the apiary. I may say the spraying was done rather more copiously than I expected; in fact, the combs were nearly washed, so that I do not think eggs and grubs are adversely affected by Bacterol.

Just one word to our friend, E. G. Staygle; he says that "he is convinced Bacterol was the cause of his failures this year." My experience is to the contrary, having had several dummy queen cells this year (without any spraying) in healthy stocks. It is one thing to say that certain treatment has been the cause of failure, but quite another to prove that the failure would not have occurred had that treatment not been resorted to. It is the same with "Isle of Wight" disease. One cannot say that a certain so-called remedy which failed in one's own opinion to cure the bees was the cause of their death; they would have died whether or no.—W. J. Gibbs, 84, Gillygate, York.

PIONOGEN AND "ISLE OF WIGHT" DISEASE.

[9469] It is a long time since last I communicated with your readers through the correspondence column of the British Bee Journal.

I write now because of the interest shown last year by many of them in my treatment of the "Isle of Wight" disease. Mr. Heap assured me that my stocks would this year prove the correctness of his theory, viz., that I had not banished the disease, but only checked it temporarily. Some of your readers expressed the hope that I would let them know how my stocks stood when the month of May came round. I have pleasure in doing so now, and would have done so sooner but for the fact that in the spring I had been accepted for National Service, and my time was fully occupied putting my affairs in order preparatory to my departure. *My stocks have come through without any recurrence of the disease.*

Your readers will be interested to know that the stock which was particularly mentioned last July as having been on the point of extinction before my treatment is now my strongest stock. I have already taken away from it over 60 lbs. of honey, and I noticed a few days ago that the shallow combs were again filled, and the section rack seemed, by its weight, to be half filled.

Unfortunately I lost the large swarm which came from it last month. The stock is at the extreme end of a paddock, where it is not often visited.

Isolation has made that stock very bad tempered. It is housed in my largest hive, and I tried in every way, by removing combs, etc., to prevent swarming, but in vain. Two other swarms I lost nearer the house, but I cannot complain as I have secured five. I have had trouble in one stock with a drone breeder, but have latterly put that to rights. One of my swarms has filled a rack of sections, and I have also removed a comb from the brood chamber for extracting, thus giving more room for brood.

I am very pleased with my bees, and am glad to be able to record their freedom from disease.

With regard to the treatment for "Isle of Wight" disease, I agree with Mr. Price's verdict that it is difficult, if not impossible, to effect a cure if the disease is discovered only when the winter has arrived. A lady in this neighbourhood bought a stock in the autumn, from a distant apiary, and on mild days a month later crawlers began to appear. I took the risk of opening up the hive and spraying the bees. No crawlers were seen when I visited them a week later.

A very cold spell then followed, and the lady left home for a couple of months. She wrote to me before her return to say that her gardener had informed her that he had opened the hive, seeing no bees about, and the bees were all dead. This is the only case I have had of failure, and it would seem to suggest that the remedy, to be effective, should be applied only when the bees have weather of such mildness as will enable them to fly, and avoid all excretery matter.

I feel sure that if measures were taken during the summer season to spray all stocks (whether diseased or not), winter losses by disease would be reduced to a minimum. If it is too much trouble to spray combs and bees, bee-keepers might at least periodically squirt the hydrogen

peroxide mixture (one part in six of water) into the entrances of each hive. The heat of the hive will liberate the oxygen, and the vigour of the stocks will be noticeably increased.—A. H. HOLLIS.

HOW BEES CARRY AND USE WATER.

[9470] In giving my observations for some years on how bees carry water and after how it is used in the hive, also its relation to "Isle of Wight" disease, I should be glad to know if any of your readers have noticed the same.

Bees which collect water are the older or field bees; they carry it, I presume, in the honey stomach in the same way as nectar. Does it undergo any alteration in the progress by addition of gastric juice?

The bee on entering the hive distributes its load to the younger or nurse bees. I have noticed it generally giving it to two or three of these bees, which use it, I presume, in making the chyle food. Now should the water be contaminated with "Isle of Wight" disease, or should the field bee which carries the water be suffering from the same, would it not spread the disease to the nurse bees, which would transmit some of the spores in the chyle food fed to the larvæ? The brood when hatched would quickly develop the disease, having taken the spores in the food during its larval stage. Has anyone found the spores of this disease in the food, either given to the larvæ, or in the royal jelly? Would it not be better to add, if possible, besides a little salt, Bacterol to the water supplied to the bees?

Of course, there are not nearly so many cases of this disease noted during the spring and summer months, when most of the water is taken, the autumn and winter generally taking off much the largest share of bees, but I think they have it all the same; weather and confinement to the hives have their influence on the death roll. The quantity of honey, etc., passing through the intestines, or being regurgitated, carries off a quantity of spores during the summer months, which during the time of rest of the bee in winter eats into the walls of the intestines and quickly ends its life.

Before finishing I should like to say how much for many years I have enjoyed the BRITISH BEE JOURNAL, and what a great help in bee-keeping it has been to me. Mr. Kettle's "Dorset Yarns" are so enjoyable, one can picture his farm so well, and our Editors' "Seasonable Hints" are always welcome; in fact, anything he writes there is always something to learn from.—E. BISSET.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

August 4th, at Wye, near Ashford, Kent.—Kent Honey Show, 13th Annual Exhibition. Classes to suit all bee-keepers. Splendid prizes. One 6 guinea and two 5 guinea Challenge Cups; also two champion silver cups. Schedule and entry form free on application to Mr. Alfred Lepper, secretary, Kent Honey Show, 8, Scotton-street, Wye, Kent.

E. W. D. MADOC.—*Moving Bees to the Heather.*—The two most important things are the proper securing of the combs and bees, and ample ventilation. The hive body should be made fast to the floorboard, the entrance being closed by a piece of perforated zinc. Make a frame of wood to fit the top of the hive, the pieces of wood being about ⅜in. thick, and about 2in. wide, tack perforated zinc, or if the bees are only moved a short distance, a piece of scrim, cheesecloth, or other open material will suffice. Remove all quilts and screw the frame over the tops of the frames, with the zinc, or scrim-covered side uppermost. Your best plan will be to borrow or hire a pony and dray, and the hives will only need lifting on and off once.

"TALY" (Ilford).—*Using Queen Excluder Under Sections.*—This is a matter for individual choice. Some bee-keepers never use it under sections, others always do. We prefer to use the excluder, as without it there is always the chance that the queen will deposit eggs in the sections, which, needless to say, ruins them. We have repeatedly seen nearly whole racks of sections spoilt in this way, and only last week removed one for a bee-keeper who had no queen excluder, in which more than half the sections contained brood. Thanks for your appreciation of our paper, and we are also pleased to hear you enjoy the "Dorset Yarn."

"GREEN AS GRASS" (Essex).—*Commencing Bee-keeping.*—(1) The *best* time is the spring, but if you can purchase a stock you may start any time. (2) The W.B.C. hive is the best. You cannot do better than get the one you name. The secretary of the Essex B.K.A. is Mr. G. R. Alder, 7, Bulwer-road, Leytonstone, who will be pleased to give you any information.

MRS. I. M. CHAMBERS (Walton).—*Two Queens in One Hive.*—One queen was aged and worn out. Cannot state her age, probably about three years. The young queen had mated, but may not have begun to lay to her full capacity; she was quite normal. They were not pure Italians.

G. F. GARDNER (Burnley).—*Providing Winter Stores.*—It is quite possible you will find more honey in the brood combs than you expect. If there is not sufficient for winter, remove the super, extract the honey, and feed it back to the bees. You do not say what the super is—sections or shallow combs. The bees would not starve if a super containing honey was left on without a queen excluder, but the bees would be almost certain to commence breeding in the super in the spring, which would spoil sections, but not shallow combs. Why not take the hive on to the moors, and let them fill up with heather honey? It is not a long journey from Burnley.

"L. T." (Essex).—*Cells of Leaf Cutter Bee.*—It was a rather unusual place, but these insects often do choose queer places in which to construct their cells, some burrow in the ground,

or stumps of decayed wood, others make use of the deserted holes of the burrowing bees, or the tunnels of earthworms, etc.

"BENEDICTUS" (Wales).—*Identification of Insect.*—It is a Leaf Cutter Bee, and the punctured leaves were samples of its work.

We do not think your plan would be more likely to prevent swarming than placing the super on the top.

"SPOT" (Carmarthen).—*Destroying Bees.*—Use sulphur fumes, or close up the entrance, and remove all the quilts but the one next the frames. Pour on this about a wineglassful of chloroform and replace the other quilts. Bisulphide of carbon may be used, but take great care that it does not come near a naked light.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1d. per word as "Business" Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.

PRIVATE ADVERTISEMENTS are only intended for readers having Surplus Stock to dispose of. Driven Bees, Nuclei, and Queens that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

HEATHER Hive, newly painted, cotton covered roof, good value; particulars, or exchange for Cowan's Extractor, geared reversible.—MRS. STANCLIFFE, Middleton, Pickering. h 12

WANTED, Stock or Swarm of Italian Bees, warranted free from disease.—Castle Hill House, Bodmin, Cornwall. h 13

NUCLEUS Hybrids, Black—Carniolans, for sale, five frames, 1917 queen, 27s. 6d.—HAGUE, Kirkham, Lancs. h 14

WANTED, Simmins' Conqueror Hives, sections with drawn-out combs, also Extractor, in good condition.—MADOC, Bedales, Petersfield, Hants. h 15

WANTED, Bees or Accessories. Will give classy young Fox Terrier bitch and travelling box.—A. LAW, 39, High-street, West Melton, near Rotherham. h 16

ITALIAN BEES.—Strong, three frame Nucleus, 25s., grand workers, healthy.—BOWREY, Swallowfield, Reading. h 17

WANTED, secondhand geared Cowan's Extractor, to extract two standard frames of comb. Quote lowest price.—MRS. JOHNSON, Grange View, Walton, Wakefield. h 18

HONEY Extractor, large size, honey tap, uncapping knife, wax extractor, good condition, cheap.—MOSLEY, Avenue, Tonyrefail. h 19

FOR SALE, a few surplus Nuclei, English and Hybrids, 4 and 5 frames, 1917 queens, fertile.—MARTIN, 8, Ladysmith-road, Eltham, S.E. 9. h 20

W.B.C. Hive (Taylor), clean, healthy, used once, 20s.; Cottage Hive (Taylor), equally good condition, 10s., f.o.r.—T. BALE, Laurels Apiary, 1, Hodford-road, Golders Green, N.W. h 21

FOR SALE, two 1917 Fertile Dutch Queens, 3s. 6d. each; one 1916, 3s.—LINTER, 34, Alma-road, Bournemouth. h 22

SURPLUS Plants.—Cauliflower, Broccoli, Savoy, Brussels Sprout, and Curly Greens, 1s. 3d. per 100, free.—FLOOD, Badby, Daventry. h 23

BOARD, Lodging, and Tuition in Practical Bee-keeping, for Ladies or Gentlemen.—Apply, W. ION, Easifield Apiary, Healing, Lincolnshire. h 28

FOR SALE, Frame Hives, Skeps, and other appliances, cheap.—C. GREEN, 2, Arthur-road, Stratford-on-Avon. h 32

WANTED, Stocks and Swarms of Bees, any variety, any quantity; copies of the "American Bee Journal," January-June, 1917.—S. H. SMITH, 30, Maid's Causeway, Cambridge. h 29

WANTED, finest Honey.—Send sample and price to WILLIAMS, 4, Victoria Arcade, Swansea. h 30

FOR SALE, guaranteed pure Light English Honey, 180s. per cwt., f.o.r.; 28lb. tins; sample 4d.—LAW, Cuckoo, Hinxworth-road, Ashwell, Herts. h 31

FOR SALE, three good Bee Hives, clean, two want painting.—MATTHEWS, New North-road, Barkingside. h 5

1917 White Clover Honey, full flavour, sample 4d., 196s. cwt,, 28lbs. tins free. — JOHN FLOWER, Bungalow, Owslebury, Winchester. h 10

WANTED, healthy lots of Driven Bees; delivery before end of July, London.—Lambhill, Strathaven, Lanarkshire. h 33

BEES WAX, in any quantity, 1s. 9d. lb. given.—CHARLES FARRIS, 71, Bishopsgate, London, E.C. 2. a 8

HOME-MADE Hives for sale, floor-board, calico covered roof, two lifts, two shallow frame racks, all parts interchangeable, 10s. each.—BUTTON, Castle Camps, Cambs. g 63

BUSINESS ADVERTISEMENTS.

CHOICE PROLIFIC ENGLISH QUEENS, 1917, from non-swarming stocks, tested and selected, 6s. each; safe arrival guaranteed (13th year). Illustrated work, "How to Prevent Swarming," with many photos of bees and their work, 7d. All post free.—WILKES, Four Oaks, Birmingham. a 4

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

YOUNG Fertile Queens, price 7s. 6d. each.—PRYOR, Breachwood Green. h 7

ITALIAN 1917 Fertile Queens, reared in England, 5s. each.—CADMAN, Codsall Wood. h 25

HONEY in sections wanted.—Particulars to YEO'S TORBAY DAIRIES, Paignton, South Devon. h 26

SECTIONS, first grade wanted, in small or large quantities. Please quote price, carriage paid to THE HONIELADE CO., 100, Hackford-road, Brixton, London, S.W. 9. Best grades Colonial Honey for sale. h 27

The certain cure for and Preventative of "Isle of Wight" disease.

BACTEROL

Proved by Bee-keepers generally after testing on the most hopeless stocks.

Manufactured by "Bacterol" Limited, London, N.

MENLEY & JAMES, LTD., MENLEY HOUSE, FARRINGDON ROAD, LONDON, E.C. 1.

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

P.O. J. W. Haigh Johnson.—R.N.V.R. Hydroplane Service for Submarines.

Pte. F. W. Gwen, Churchill, Somerset.—A.S.C.—MT. For two years a district secretary of the Somerset B.K.A.

A DORSET YARN.

What a number of roaming swarms are moving about Dorset this last few weeks! At Lytchett Minster two came and settled in one cottage garden, and one in the vicarage garden in the same village. I guess they came from the church roof close by. At Corfe Lodge one of the workmen had two in one week from the roof of a cottage. Two others went roaming off to colonise Dorset with bees.

One I had early this week. Some children came to tell me "a swarm is in the hedge—has been there all day."; it was impossible to shake them as they were on the hard-wooded thorns close to the ground. I cut out a part of the hedge to get a skep over them, then gently brushed them upwards with a twig off a box tree; this sent them moving upwards; in fifteen minutes they were mostly all in the skep. I then gently drew out the skep and placed it on the ground about a foot from the bank; it was nearly dark. I went home for a cloth and tied them in it, and soon had them home on the bike and placed on a sugar box. Between four and five the next morning I went to look at them; they were not at all happy; some were running over the top of the skep as if they were in training for a Marathon race. I was soon on the bike again with a small skep, and off to where they came from. There was a small cluster (about a small teacupful) left there, and with them the queen. I picked up the whole lot with my hands, and dropped them in the skep, and as they crawled around I saw the queen was there. I tied them in a cloth and was once more quickly back to the Violet Farm. The other lot was out as if going to swarm and clear off; but they all went back into the large skep when the queen was there.

To-day (Saturday the 14th) one of mine came out about noon, and while at tea they left the skep and went off on their own. I admit it was annoying to go off and leave three racks of sections only partly finished (I look on July swarming as a calamity to the bee-owner). Within the hour a boy came up from another farm, "Large swarm of bees down our place, maister." He knew there was a shilling for the information, and his shortness of breath showed he was eager to get it. "All's well that ends well"; they will have to finish the sections before they have these mad gambols again, a day was wasted as it was.

Our lot of bees are working the sweet chestnut and charlock mostly this week; the former are close by in the Vicarage garden, the old Vicar, who planted them, is laid in the little churchyard; but the trees he planted are blooming and fruiting year by year. Shakespeare wrote, "The evil which men do lives after them; the good is oft interred with their bones." 'Tis not so in this case; the good is ever present with us. He planted largely limes and chestnuts. What could a bee man want more? An American writer in one of his books said, "Happy is the man who plants a tree, so that others can sit beneath its shade and bless the hand that planted it."

I am one who is thankful for the old Vicar's foresight. He was a learned Greek scholar, but, as Gray put it in his beautiful "Elegy in a Country Churchyard," "Many a flower is born to blush unseen and waste its sweetness on the desert air," so his learning was wasted, as he was a very poor preacher. He knew nothing of elocution; his well-reasoned sermons were long and dry. As a chorister for twenty years in the same church I heard a good many of them.

Still, I am digressing again. The sweet chestnut has the pollen flowers and seed-bearing flowers on the same tree, the former on long, graceful stems and usually about twenty times more in quantity than the seed flowers, which are at the extremity of this year's growth; the male flowers in the axils of the leaves just beneath them; it is the male flowers that show in such great profusion at this

time of year; the female flowers are very small until fertilised, then they swell out quickly as the seed develops. By far the greater number of bees are working the second crop of charlock growing among the mangel crops; no other of the cruciferfamily that I have noticed gives so much to the bees as does this pernicious weed. I have some which the hoers left in a field of broad beans well up to the top of the beans and still flowering, which will give trouble to the farmer for many years to come. As "one year's seeding is seven years' weeding," the seed of this must be very rich in oil, as it lives so many years in the soil without germinating. I have seen pasture land broken up, and this plant grows with the crop planted, though it could not have bloomed in that field for many years previously, as it cannot grow and flower among the grasses and clovers.

The blackberries are still a continual feast for the bees, and as the flowers open they are well hunted over, to get all their sweetness before the seed develops, and this year as so many hedgerows have not been trimmed, owing to shortage of labour, the blackberries have had full swing, and never before has there been so many left to grow over the hedgerows as this year. Blackberries fruit on the last season's growth.

It would be a great help to us who cannot give so much time to the bees as we would like, if one had a trap to catch some of the drones as they leave the hives for a fly round. I had a bar-frame hive that had thrown out two large swarms that should have given me two dozen perfect sections; but, after swarming, the drones seem all to come back to the parent hive—they seem to know where they are well provided for. I noticed them by their loud notes, and as they came back to the hive they trampled over the workers as if they were the most important personages. I thought there must be a way to reduce their numbers without dropping one's index finger on them as they come and go—it takes too long. I got a piece of thin board and cut out a piece to let the workers through and not enough to let the large head of the drone, so as each male came home he could not rush into the hive in such a blustering hurry. I very soon crushed a few hundreds of them; now the sections are being filled up as they should be. Of course there are now a number of young bees out to help. Why, in a bar-hive with all new worker foundation last year they should build so many drone cells, and why the queen should lay the eggs in them and the workers feed them just to fertilise one or two queens is beyond my comprehension; still, some of them have been dragging out the white grubs of drones all the summer, and these have the least, so some of them can see their folly before it is too late.—J. J. Kettle.

A WONDERFUL CITY.

THE LIFE STORY OF THE HONEY BEE.

By Oliver G. Pike, F.Z.S., F.R.P.S.

(*Continued from p.* 207.)

Some Drones are already outside the hive enjoying the sun; some are still feeding when the angry determined Workers rush upon their now helpless mates. The big fellows still resplendent in their gorgeous dress hardly know what is the matter. At first they do not struggle, perhaps these hard-worked sisters of theirs simply want to move them aside. But the very eagerness of their executioners at last convinces them that if they wish to live they must struggle hard for existence. Their great strength helps them for a time, and they pull and push the Workers aside. Three of these, however, with their jaws and feet firmly hold each struggling giant, while a fourth or fifth will quickly sever the muscles of the wings! No mercy is shown to them; enough of their idleness has been seen during the days of work, and now in this, their last hour, they are simply disarmed, disabled, and turned outside the City that requires their presence no longer, to die a miserable death. Some which escape into the world outside, try to return at night, but finding a guard of sentries with determined, resolute intentions awaiting them, they go to the shelter of a flower or leaf, a place where they once loved to bask in the summer sun. They try to rest there, but the cold chills, or even early frosts at night do for them what their sisters intended to do, and when morning dawns once again, with its following of mists and sunshine, no longer are the Drones alive.

CHAPTER XIV.

THE WINTER REST.

The City, which has now been relieved of all its males, settles down for a period of winter rest. The Workers, which for so many weeks have been toiling amongst the flowers to gather in winter's store, are able to enjoy the results of their labours, or rather the labours of their sisters which are now dead and forgotten. They cluster together in the centre, or on the warmest side of the hive, and as day follows day they seem to become more torpid. The wild winds of autumn come and rage

round the hive, but inside all is warmth, for if we could lift the veil and look on the bees, we should see between the walls of wax, thick layers or clusters of golden-brown insects all packed closely together. They seem to be asleep, a drowsy kind of sleep, that takes a lot of awakening, there is no energy in them, with the exception of a few Workers which crawl backwards and forwards to the cells where the honey is stored. The food that they collect they take to the clustering bees, and it is passed from tongue to tongue, and shared out by the multitude. The Queen is found in the warmest and cosiest portion of the City, but we do not see a ring of attendants around her as in the months when she was busily laying eggs. Now and then a Worker will approach her, and offer her food, but she can move from one part of the cluster to another, and no bees follow her. All through the storms of winter, the frost and snow, wind and rain which surge incessantly around the hive for several months, the inhabitants of the City remain clustered together, relying on their numbers for warmth, and for the food from the summer flowers for their strength. Those on the outside of the cluster, when they feel the cold, push their way into the centre, and others take their place; it is really warmth that they require more than food, and, strangs as it may seem, a small colony, say, of 5,000, will consume far more food in proportion than one of 20,000, the reason being that without the greater warmth the insects require more food to keep them alive. A colony will pass far more successfully through a uniformly cold winter, than through one where several spells of warm weather occur. If a really warm day with sun should come in the depth of winter, and this will sometimes happen in our changeable climate, then hundreds of the bees will leave the hive, fly around outside, the cells of honey are attacked, more than are really required are broken open, and the whole colony prepares for the spring that they think has arrived. With the approach of cold again the bees have to go back to the cluster and settle down once more.

Even in the depth of winter there seem to be a few sentries guarding the colony, for if we gently tap the alighting board of the hive, one or two bees, certainly in a dreamy state, will come out to see the cause of the noise. That knowing little bird, the blue-tit, seems to know this, for I have seen one go to the hive, and tap with its beak at the entrance, then quickly snap up the bee when it came out; the bird would then fly to a branch above, deftly pull out the sting while it held the struggling insect under its foot, wipe its beak on the branch to get rid of the sting, and then swallow its prey!

If the hive can be kept in a state of complete rest from October to February, then the bees will fare better than if they are disturbed by spells of warmth. As we look on the hive in the months of winter it seems as dead as the leafless trees and bushes around; there is nothing to show that the wooden box before us contains one of the most wonderful little Cities in the world, we have seen something of these wonders, but only something, for the City contains countless mysteries which have not yet been fathomed by man. Now the Workers with their Queen are at rest, and a well-deserved rest too, waiting there silent and almost motionless for the spring sunshine. The cold rain comes down upon the hive, the snow drifts up around it, but the bees sleep on; the grim ghost of winter does his worst, but inside their home the bees are secure, surrounded with their store of food given them by the summer sun. The days pass on towards the end, and one bright morning the sky-lark's song, and, perchance, the yellow primrose on the hedgerow bank, tells that the spring is again here. Then, when the swallows once more skim with graceful flight over the meadows, and the cuckoo's clarion echoes around, we know that the City of wonders is again being peopled, and that the tens of thousands of busy Workers are again bringing home from the flowers one of the sweetest gifts that Nature bestows upon her friends. The cycle of life goes on, the wheel slowly revolves, spring, summer, autumn, winter, all four seasons pass with their slow but irresistible progress, and the pageant of life and trail of death goes with them. The home of the honey-bee is just one small item in the ocean of wonders in the world of Nature, yet it contains a marvellous little nation, and their City is indeed a wonderful wonderland.

(*Finis.*)

KENT BEE-KEEPERS' ASSOCIATION.

LECTURE AND DEMONSTRATION AT GILLINGHAM.

Bee-keeping is becoming quite a popular hobby in this district, as was evidenced by the large attendance and demonstration on "The Advantages of Bee-keeping," at the Apiary, Bleak House, Gillingham, on Saturday, June 23. Mr. J. R. Featherby, J.P., presided, and Mr. George Bryden, of Star Hill, Rochester, was the lecturer and demonstrator. Mr. A. Dewey, Chairman of the Kent Bee-keepers' Association, briefly commented on the standing of the Association. There were something like four hundred members, and it had been found neces-

sary to divide the county into three divisions—eastern, midland, and western. The membership, however, was still increasing considerably, and it was found advisable to sub-divide these divisions into districts, and even these were increasing rapidly week by week. As there were so many in the Rochester vicinity, it had been decided to form a district, and, if possible, that afternoon to elect the secretary and committee before the lecture began. The committee would work in conjunction and co-operation with the Association. Mr. Bryden had offered his services as hon. secretary, and they all knew that he was one of the most enthusiastic members of the Association.

The following names were submitted for election on the committee, and were elected en masse:—Miss Featherby, Mr. Reader, Mr. Fry, Mr. Gee, Mr. Jenkins, Mr. Sells, Mr. Bishop, Mr. Semper, Mr. Bryden, and Mr. Hales. Mr. Bryden (46, Star Hill, Rochester) was unanimously elected district secretary. The committee would arrange the future meetings.

Mr Bryden, who is a member of the Executive Council (Western Division) of the Kent Bee-keepers' Association, was received very cordially. He said that it was very pleasing to see so many there that afternoon, and with all confidence he could advise almost anyone to commence bee-keeping at any time, for the prevalent conditions in the neighbourhood were very favourable. Of the many advantages of such a hobby he would mention a few. It had been said by medical practitioners that every man or woman should have some hobby, or something to provide a relaxation from their everyday toil and ordinary work. That was one advantage of the hobby under consideration. It did not bind them to particular time, for it could be done at night or morning, or at any hour at one's disposal. Secondly, the honey which was produced was very much in demand at the present time, it being required to take the place of sugar. Bee-keeping should be encouraged, in order that the honey could be obtained in their own country, whereas the amount of honey annually imported was worth £200,000. Thirdly, it was valuable in the way of "stings," for it was true that very few bee-keepers suffered with rheumatics. And the bees were almost invaluable for the successful growing of crops. To be really a success it required a knowledge of the general run of the hobby before buying the bees, otherwise it would result in disaster. Giving a few interesting particulars concerning the insects themselves, Mr. Bryden said that there were about 50,000 bees in one hive. The queen bee, whose natural length of life was about five years, when in her prime should be capable of laying from two to three thousand eggs per day. The outcome, however, depended considerably upon the way in which she was fed by the workers. Their sting was only used against an adversary. The work of the drones was to perpetuate their species by mating with the queen. After a short talk on the bees, a practical demonstration was given by Mr. Bryden, who clearly and explicitly explained several points of interest. A nucleus was formed from a hive, for the purpose of increase, and a queen bee given it. By that means they were able to build themselves into full strength colonies for the winter. Mr. Bryden showed how the operation could be done by any bee-keeper, at the same time noting the necessary precautions to be taken. The demonstrator also briefly and capably answered a few questions put by his hearers, after which Mr. Gee gave an illustration of the construction of a W.B.C. hive, very clearly explaining the various parts and their use.

A hearty vote of thanks was passed to Mr. Bryden, whose demonstration was most helpful and interesting to all.

Mr. G. W. Judge, of Dartford, Secretary of the Association, was also present, and enrolled several new members.—*Communicated.*

OPENING MEETING OF THE BROMLEY BRANCH.

In 1916 the Crayford and Mid-Kent Bee-keepers' Association amalgamated and became the Kent Bee-keepers' Association. The county association carries out its activities in three divisions—an Easetrn, a Midland, and a Western—each with a divisional secretary. These divisions are now being divided into districts and branches, and among the latest formed is the Bromley District Branch, of which Mr. W. E. Clifford, Penshurst, 63, Southlands Road, Bromley, is the secretary. The Bromley branch held its first meeting on Saturday, June 30, and, judging by the enthusiasm of those present, numbering well over a hundred, bee-keeping seems likely to become a quite important local industry. There is no possible reason why it should not. It would be difficult to find anything more fascinating or more profitable. And if Saturday's meeting left behind any one impression deeper than others, it was that there exists among bee-keepers not only a rare enthusiasm for their—we must not say hobby—industry, but an even rarer spirit of camaraderie—an earnest and anxious desire to give unrecompensed and willing help to all who desire to join their ranks. Membership of the Association at 2s. enables the would-be successful bee-keeper to tap at any time the rich store of experience and expert knowledge of the parent Association.

Through the kindness of Mrs. Bethell,

of The Mansion, Sundridge Park, Mr. A. M. de Groot and Mr. A. C. Houghton were permitted to arrange the meeting on one of the beautiful terraces in the grounds. For well over an hour Mr. W. Herrod-Hempsall, F.E.S., kept the company deeply attentive with his fascinating lecture. He dealt with "Bee-keeping as a Means of Food Production," and, so far as time would permit, he treated of the bee in every aspect that concerns the bee-keeper.

The last part of the lecture dealt with the structure of the modern hive, the best form of which was the W.B.C. pattern, invented by William B. Carr. A sample of the hive (kindly lent by the Baldwin Apiary) was used for demonstration purposes, and the lecturer showed its advantages over the old-fashioned straw skep, which was cruel, unclean, and unprofitable. The use of every part—straw, cases, division board, excluder zinc, section rack—was lucidly explained, and the practical handling of the bees themselves was still further shown by means of a hive carried down from the apiary of Messrs. de Groot and Houghton. Questions were asked and answered. There were plainly amongst the audience not only many that were already bee-keepers, but many who, as a result of the meeting, were converts.

Votes of thanks to the lecturer and to the chairman were proposed by Mr. Alfred Dewey, chairman of the Association, and were unanimously accorded.—*Communicated.*

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE BRITISH BAR FRAME HIVE.

[9471] At the time of writing I have any amount of letters from my bee-keeping friends, and I have no doubt many of them are wondering why they have not received an answer. I am sorry to inform them that on April 19 last during the fighting in Palestine I was severely wounded, being shot through the right lung and right leg. I was moved to a hospital in Cairo, where I have been for the past two months in a helpless condition and suffering much pain. My right arm was paralysed, due to the effects of the wounds, so writing was out of the question. I am pleased to say that I am now very much better and making good progress, and in a few days I hope to answer all letters from my friends personally. I have been much interested in the recent letters appearing in the Journal on the "British Bar Frame Hive." I have been of opinion for some time that the present hive in use in this country is far too fanciful, and if the bee-keeper goes in for Italians he will be sadly disappointed, as it is too small in every way, and will only result in incessant swarming. I have found the

W.B.C. hive answer well, but I always have to use two brood chambers for the queen to breed in. However, this hive is expensive and practically out of reach of the ordinary bee-keeper. Personally, I much prefer the commercial frame to our standard frame, but, unfortunately, one cannot use them owing to the standard frame being general throughout the country. It is mostly desired to use one type of hive only in the apiary, yet when visiting bee-keepers one rarely sees two hives alike. The advantage of this cannot be over-estimated, for every bee-keeper will admit how handy it is in the busy season to have all hives and parts interchangeable. We in this country are far behind other countries in every way as regards the bee-keeping industry, and I hope that after the war something will be done so that we can have a standard hive to meet the needs of the commercial bee-keeper.

I am pleased to say the bees at Bushey

are still all right and doing well, though I have not seen them for twelve months. Everything promises, according to accounts received, for a good honey season, which I hope will be realised. With best wishes to all readers of your paper, —No. 2366 Pte. JULIAN E. LOCKWOOD, 1/5th Norfolk Regt., Nasrieh Military Hospital, Cairo, Egypt.

[Pte. Lockwood would be grateful if any of our readers could send him a few cigarettes.—EDS.]

EFFECT OF SPRAYING WITH BACTEROL.

[9472] With reference to Mr. J. G. Sparkhall's letter, No. 9465, published in your issue of the 5th inst., I am pleased to say the three stocks in question are quite strong, and, as far as I am able to judge, free from disease. The results of the two cells raised by No. 3 are somewhat inconclusive, but have certainly broken the chain of evidence which led me to suspect Bacterol. One of the cells was cut out, given to the nucleus mentioned in my previous letter, and hatched out three or four days later. The other cell was cut down and opened by me 22 days from date of commencement and found to contain a dead grub.

The conditions under which Nos. 1 and 3 are working are perhaps abnormal; both of these stocks are being worked on Mr. W. J. Sheppard's swarm control system (BRITISH BEE JOURNAL, April 27, 1916, page 134), and the attempts to raise queens were in the top chambers. The empty combs used to substitute the raised brood were sprayed with Bacterol. No. 2 was a simple case of "dividing," and it has now raised a queen from eggs supplied by its old queen.—EDMUND G. STAYGLE.

A RECORD IN HONEY GATHERING.

[9473] I don't know whether anyone can cap page 193, June 21, 1917 (A Record Swarm). But if your readers refer to page 474, November 28, 1907, they will see one recorded to equal it.

I think I hold a record myself for fast honey gathering, as I put a cap on a straw skep at 4 p.m. Monday, June 25, and took it off quite full and all cells sealed in the evening, Saturday, June 30; and the honey is as dense and the lightest colour I have ever seen with a nice flavour pure Dutch clover honey. What makes it worth recording is the weather has been bad for honey gathering, the past five days having been very dull and wet with a cold N.E. wind blowing. DAVID HANCOX.

A NOTE FROM FRANCE.

[9474] I thought I must write you a few lines to let you know that I still receive the BRITISH BEE JOURNAL safe. My wife still sends it out to me, as I am now serving with the Army in France. I have had to leave my bees to look after themselves, so I cannot hope to find much of them when I get back, which I hope will not be long now. There are a lot of bees in some places out here, some of the hives are knocked over by shells, and some are quite all right, but mostly in skeps. Trusting you and the B.B.K.A. are doing well.—PTE. H. CHEESMUR, 73320, 123rd Labour Company, B.E.F., France.

Re "ISLE OF WIGHT" DISEASE.

[9475] Last season I had my bees in London and also those in the Cotswolds carefully sprayed several times with Izal, and fed them with Bacterolised candy later on. Some I sprayed with Bacterol solution also.

At this date I have two not very strong stocks left out of 20, so I am by no means convinced that I have found a remedy yet for the bee-keepers' terror. I may remark the bees seemed to approve both medicaments; in fact, quite a number took their last meal of consolation from the Bacterolised candy whereon indeed I later on found them dead.

I have no dogma to urge; I only offer sadly my experience.—R. WALTER ESSEX.

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

NUMBER OF QUEENS WITH A CAST.

[9065] Being an interested reader of BEE JOURNAL I thought the following would interest you. May I ask if you have had a similar occurrence? On the 6th inst. a cast of bees settled on a hedge close to my

house. I put same in a skep, when, to my surprise, I found a young queen flying. I promptly caught her and put her in the skep, but, to my further surprise, when I lifted the skep I found a dead queen, then when I hived them there was another dead queen, also a fine young virgin queen. That makes three queens with one cast, and I am enclosing the two queens, also two of the workers as they appear to me to be two quite distinct varieties of bees, one being a golden, the other a black, but both from the said cast. Hoping to hear your opinion on the above, if you think it is worth answering, wishing the JOURNAL every success. H. PARK.

REPLY.—It is no unusual thing for several virgin queens to accompany a cast, or second swarm. There may at times be as many as half-a-dozen. Sometimes the bees form one cluster which contains all the queens, at others each queen and part of the bees will form separate clusters. The bees are hybrids. These are never all marked alike. When an Italian queen mates with a black drone some of her progeny will be more or less banded, and others will have practically no yellow markings at all.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

A. H. COLLINS (Kent).—*Dealing with Queens when Uniting.*—It is better to take one away if you can find her, and to cage the one left for 12 hours after uniting. If you are unable to find either of the queens, they, or the bees, will settle the matter, and one will be killed, but there is a risk of the survivor being injured, and sometimes both queens are killed.

"VERACITY" (Wexford).—*Disinfecting Hives.*—The best method is to scorch them out with a painter's lamp. You will have to procure some petrol to burn in the lamp. Wash the outside of the hives, using some disinfectant in the water, and when they are dry give a coat of good oil paint.

"CURIOUS" (Wilts.).—*Management of Skeps.*—(1) Pettigrew wrote a book, "The Handy Book of Bees," which is now out of print. You might get a secondhand copy for about 1s. 6d. or 2s. The fourth edition was published in 1881. (2) There is nothing so suitable as good oil paint.

A. W. BUTLER (Surrey). *Dividing Stocks.*—If you wish for increase you might divide the stocks, but you must purchase queens, and be prepared to feed the bees. Carry out the operation as early as possible.

"A. C. W." (Edinburgh).—*Rearing Queen in Hive Containing a Fertile Queen.*—We have carried this out successfully. You will find the plan described on pp. 129 and 130 of the "Guide Book," but we prefer to rear the queen in a nucleus hive.

A. E. FRENCH (Twickenham).—*Making Observatory Hive.*—You will find full instructions in "Helpful Hints for Novices" in the BRITISH BEE JOURNAL for March 12 and 26, and April 9 and 23, 1914. We can supply the four copies for 6d.

P. STRIDE (Herts.).—*Bees in Skep.*—We cannot say if you are likely to get any surplus honey this season without a personal examination. The best method is to fix a small super on the top of the skep. You may use a small skep or cap, a bell glass, or a small section rack. There is probably a hole in the top of the skep; if not, you will have to cut one about 3in. in diameter. If the skep is very full you might transfer by the method given on p. 151 of "Guide Book," but the bees will probably need feeding up for winter; or you can winter them in the skep and transfer next spring.

A. E. RAGGATT (Bristol).—*Using Honey for Jam Making.*—Honey is quite suitable for this purpose. It has often been used for making jam in our own house, the proportion used being 1lb. honey to each 1lb. of fruit. It needs more stirring, and boiling a little longer than if sugar is used, and it keeps as well or better than when made with sugar. Do not use a strong flavoured honey, such as heather or lime, clover or sainfoin honey is the best.

"D. W. W." (Hindhead).—*Removing Bees from Chimney.*—We cannot say without an examination, but we should think your plan would work. Use a comb of old brood—that is, just on the point of emerging—and without any bees. Better do it now, and purchase a laying queen for them, it will save valuable time. The secretary of the Surrey B.K.A. is Mr. F. B. White, Marden House, Redhill.

"P. A." (Driffield).—We are sorry we are unable to do anything in the matter.

G. F. MAYCOCK (Willesden).—The honey is quite wholesome for human consumption.

Honey Sample.

E. BISSETT (Sussex).—The honey is a very good sample, gathered from mixed sources. You should make at least 1s. 6d. per 1lb. jar retail, and 120s. per cwt.

Suspected Disease.

"NOVICE" (Bath).—(1) Hybrid Italians. (2) "Isle of Wight" disease. (3) This is a point that has not been definitely decided, and appears to vary in different cases.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

August 4th, at Wye, near Ashford, Kent.—Kent Honey Show, 13th Annual Exhibition. Classes to suit all bee-keepers. Splendid prizes. One 6 guinea and two 5 guinea Challenge Cups; also two champion silver cups. Schedule and entry form free on application to Mr. Alfred Lepper, secretary, Kent Honey Show, 8, Scotton-street, Wye, Kent.

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Two Words One Penny, minimum Sixpence.

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Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1d. per word as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

NUCLEUS, strong, healthy, 4 frames, 1917 queen, Sladen's Golden strain, 25s., f.o.r.—T. BALE, Laurels Apiary, 1, Hodford-road, Golder's Green, N.W. h 34

FINEST English Honey, 160s. per cwt.; sample 3d.—DUTTON, Terling, Witham, Essex. h 35

ITALIAN and Hybrid Bees for sale, few stocks and nuclei.—VINCENT, 132, Croydon-road, Anerley, S.E. h 36

SURPLUS BEES.—Golden English, with little black; two 6-frame stocks, 42s. each; also one 8-frame stock, 54s.; 1917 queens; delivery at once.—TAYLOR, 3, Exeter-street, Birmingham. h 37

WILL any kind bee brother exchange anything in bees for dog and bitch English Setter puppies, best blood living to-day.—DANIELS, Tramway-road, Pwll, Llanelly. h 38

FOR SALE, 2 cwt. excellent light-coloured Honey, in 28lb. tins, 180s. per cwt., f.o.r.; sample 4d.—APIARY, Chute Standen, Andover. h 39

5 CWT. finest Clover Honey, in tins. What offers? Sample, 3d.—WILLIS & ACOCKS, Sudbury, Suffolk. h 40

SURPLUS 6-frame Dutch and Italian Stocks, £2, or offer; four tested Queens, 4s. each, selected, 5s.—A. TROWSE, 51, Eade-road, Norwich. h 41

NUCLEUS, four frames, with bees and brood in centre, Dutch crossed with Goldens, 25s.—Also few surplus Queens, Dutch crossed with Golden, fertile, 4s. each.—GREEN, Laindon, Essex. h 42

EXTRACTOR (geared) wanted, in good condition. Particulars to BUTLER, Oak Tree House, Claygate. h 43

WANTED, 240lb. (in one lot) finest quality Sainfoin or White Clover Honey at 100s. per cwt. Please send sample.—MR. J. PERRY, Honeystreet, near Pewsey, Wilts. h 44

FOUR splendid Stocks, Hybrids, 1917 queen, packed with brood, 35s. each, carriage extra; healthy; just ready for heather. Wanted, Honey, sections and extracted.—J. BOWDEN, 167, Ellerton-road, Tolworth, Surbiton. h 45

ITALIAN BEES.—Strong, three frame Nucleus, 25s., grand workers, healthy.—BOWREY, Swallowfield, Reading. h 17

FOR SALE, a quantity of 14lb. clean tins for honey, 3s. 6d. per crate of six tins.—PARTRIDGE, Grocer, 174, Ealing-road, W. 5. h 51

FOR SALE, a few surplus Nuclei, English and Hybrids, 4 and 5 frames, 1917 queens, fertile.—MARTIN, 8, Ladysmith-road, Eltham, S.E. 9. h 20

W.B.C. Hive (Taylor), clean, healthy, used once, 20s.; Cottage Hive (Taylor), equally good condition, 10s., f.o.r.—T. BALE, Laurels Apiary, 1, Hodford-road, Golders Green, N.W. h 21

FOR SALE, two 1917 Fertile Dutch Queens, 3s. 6d. each; one 1916, 3s.—LINTER, 34, Alma-road, Bournemouth. h 22

BOARD, Lodging, and Tuition in Practical Bee-keeping, for Ladies or Gentlemen.—Apply, W. ION, Eastfield Apiary, Healing, Lincolnshire. h 28

WANTED, Stocks and Swarms of Bees, any variety, any quantity; copies of the "American Bee Journal," January-June, 1917.—S. H. SMITH, 30, Maid's Causeway, Cambridge. h 29

FOR SALE, three good Bee Hives, clean, two want painting.—MATTHEWS, New North-road, Barkingside. h 5

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

FOR SALE, seven Comb Foundation Machines, two gross Tin Section Boxes, and Sundries, as per list.—ABBOTT BROS., Southall. a 8

"ISLE OF WIGHT" Disease permanently cured without loss of bees; solution, 1s. 6d. tin, post free.—PRESSEY, St. Elmo, Coulsdon, Surrey. a 9

SECTIONS and Extracted wanted for cash.—T. SMITH & CO., 17, Cambridge-street, Hyde Park, W. 2. h 46

CHOICE prolific English and Hybrid Queens, 5s.; 3-frame Nuclei, £1, including box.—HOLLINGSWORTH, Heanor. h 47

FOR SALE, three 1917 English Queens, 4s. each; one 1916 ditto, 2s. 3d.; 2d. postage; healthy.—CROWE, Stawell, Bridgwater. h 48

TRY my new remedy for "I.O.W." Disease, in powder form. Easiest, simplest, and most efficient. Test its merits against any other remedy. 2s. 6d., post free.—A. TROWSE, 51, Eade-road, Norwich. h 49

ITALIAN 1917 Fertile Queens, 5s. each.—CADMAN, Codsall Wood, Wolverhampton. h 50

HARDY 1917 Italian queens, pure, fertile, reared by experienced breeder in France under climatic conditions resembling those in England. Buyers will receive queens direct from France. Very prolific, industrious, and good tempered. 5s. 3d. each.—ELLIOTT, "Westfield," Kelvin-road, Ipswich. h 24

BEES WAX, in any quantity, 1s. 9d. lb. given.—CHARLES FARRIS, 71, Bishopsgate, London, E.C. 2. a 8

YOUNG Fertile Queens, price 7s. 6d. each.—PRYOR, Breachwood Green. h 7

HONEY in sections wanted.—Particulars to YEO'S TORBAY DAIRIES, Paignton, South Devon. h 26

SECTIONS, first grade wanted, in small or large quantities. Please quote price, carriage paid to THE HONIELADE CO., 100, Hackford-road, Brixton, London, S.W. 9. Best grades Colonial Honey for sale. h 27

HONEY, EXTRACTED.—Advertisers invite offers of heather and other kinds of home-gathered, in bulk. Last season's or this season's when ready. State probable quantity and lowest price for prompt cash.—"R. J.," BEE JOURNAL Office, 23, Bedford-street, Strand, W.C. 2. a 5

BRITISH BEE-KEEPERS' ASSOCIATION.

MONTHLY MEETING OF COUNCIL.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London W.C.2., on July 19, 1917.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Messrs. C. L. M. Eales, J. Smallwood, G. Bryden, G. S. Faunch, W. H. Simms, G. J. Flashman, J. Herrod-Hempsall, Association representative, P. A. Cragg (Middlesex), and the Secretary, W. Herrod-Hempsall.

Letters expressing regret at inability to attend were read from Messrs. T. W. Cowan, T. Bevan, A. Richards, A. G. Pugh, G. W. Judge, and Sir Ernest Spencer.

The minutes of Council Meeting, held June 21, 1917, were read and confirmed.

The following members were elected :— A. H. Breach (Life), Mrs. S. Grantham, Mrs. B. Nuttall, Mrs. Tennant Bruce, Misses C. M. Rossiter, L. Hartshorn, Messrs. C. R. Steedon, A. F. Gray, C. S. Morris, M. J. Ransom, L. H. Marsh, P. Scott, and M. C. Read.

The report of the Finance Committee was presented by Mr. J. Smallwood, who stated that payments into the bank for June amounted to £42 2s., the bank balance on July 1 was £107 7s. 3d.; payments amounting to £5 were recommended.

The Staffordshire Association applied for a Preliminary Examination, and the same was granted.

Next meeting of Council, September 20, 1917, at 23, Bedford Street, Strand, London, W.C.2.

SEASONABLE HINTS.

In many districts the honey flow will now be falling off. Where this is the case extra supers should not be given, but efforts made to get the bees to finish off those already on the hive, especially is this the case with sections. If extra racks are added at the close of the honey flow, the result will be a number of sections that are incomplete and of no use except to put on one side for "bait" sections next season. If there are two or more racks of sections on the hive take all off, remove the completed sections, and put the others into the one or two racks left, removing one rack entirely. If there are not 21 completed, keep back those that have the least honey in them, and as others are completed they may be removed and their place by the partly filled sections.

In many places there is still an abundance of white clover. The second crop of sainfoin is also coming into flower. This applies to our own district, and strong stocks may need still more room, and another rack of sections may be added, or a box of shallow combs extracted, and returned for the bees to refill—that is, if the honey is sealed over.

From now onwards great care must be taken to prevent robbing. Once this starts the whole apiary may become demoralised. Honey should be removed in the evening, and in the case of shallow combs extracted at once, if possible, while the honey is warm. The empty combs should be replaced for the bees to clean as soon as extracted, or in the evening another day. Do not leave any scraps of comb or honey where bees have access to it, either in the apiary or anywhere else, and be certain the place where the honey is stored is bee proof.

As soon as the honey flow is over those queens that are old, or have not given good results should be replaced. Probably the best plan for the amateur is to purchase queens from a reliable dealer, but for those who like to rear their own there is still just time to attempt to do so. A nucleus may be made from the stock selected. Make it in the middle of a warm day if possible, so that it will contain plenty of young bees. Three combs should be used, one containing brood and eggs, and two with food, the brood being placed in the centre. A proper nucleus hive is, of course, the best; but, failing this, any box that will hold the three combs and can be made bee and weather proof, may be utilised as a makeshift. An entrance should be cut in one side and a piece of thin board nailed to serve as an alighting board. Shake all the bees from two or three other combs, in addition to those on the combs used to make the nucleus. Make certain that the queen remains with the stock. The bees

will build queen cells round some of the eggs in the comb of brood, but if there is a comb containing a queen cell it should be used, or a queen cell may be taken from another stock, and put in the nucleus after it has been made up a few hours, and the bees have realised they are queenless.

A large quantity of beeswax is annually allowed to go to waste in the country. All scraps and scrapings should be saved. A good plan is to have a tin or pail into which all scraps of comb, etc., may be placed, and it is astonishing what an amount of beeswax will accumulate during the season. If the bee-keeper possesses a solar wax extractor, these scraps may be placed in it as they are collected, and when the sun shines they will be melted down, at no expense for gas or coal.

We are receiving numerous inquiries as to the price of honey. We think that in view of increased prices all round bee-keepers are quite justified in charging more for their surplus honey, at the same time we quite agree with Mr. Pearman (p. 234) that some of the prices asked are exorbitant and savour of "profiteering." Foreign honey has been making £5 or more per cwt., but is now easier. Good quality English honey, other than heather, should make £6 to £7 per cwt., and retail at 1s. 6d. to 1s. 9d. per 1 lb. net jar. Jars 15s. to 18s. per doz.

Good sections are selling in London at 2s. each, and should make 18s. or 19s. per doz. Conditions and prices will, of course, vary in different parts of the country. The honey, and especially sections, should be graded, and top prices asked for only top quality goods. The National Grading Rules for comb honey, as published in the "Domestic Bee-keeper," are worth adopting, and are given below. Any section lower in grade than No. 2, or under 10 oz. in weight, should be extracted or saved for "bait" sections next season.

I.—FINISH.

1. *Extra Fancy.*—Sections to be evenly filled, comb firmly attached to the four sides, the sections to be free from propolis or other pronounced stain, combs and cappings white, and not more than six unsealed cells on either side.

2. *Fancy.*—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain, comb and cappings white and not more than six unsealed cells on either side exclusive of the outside row.

3. *No.* 1.—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stains, comb and cappings white to slightly off colour, and not more than 40 unsealed cells exclusive of the outside row.

4. *No.* 2.—Comb not projecting beyond the box, attached to the sides not less than two-thirds of the way around and not more than 60 unsealed cells exclusive of the row adjacent to the box.

II.—COLOUR.

On the basis of colour of the honey, comb-honey is to the classified as:—First, white; second, light amber; third, amber; and fourth, dark.

III.—WEIGHT.

1. *Heavy.*—No section designated as heavy to weigh less than fourteen ounces.

2. *Medium.*—No section designated as medium to weigh less than twelve ounces.

3. *Light.*—No section designated as light to weigh less than ten ounces.

A DORSET YARN.

This last week the stocks of bees at the Violet Farm have reached top hole in numbers. At night the hives are a continuous roar, and the tops of sections are simply crammed with bees. They are building a little comb on the top of sections, between them and the glass cover, and filling it with honey. They mostly have three racks on; some have had the top one reduced and empty ones replaced, to be filled again in a few days; with the lifts on, the hives look big and cumbersome. A motley lot of hives they are; some are painted white; others are made of sugar, wine and champagne boxes, tarred over to keep them damp-proof; some are covered with zinc, some with unbleached calico, while others have sanded tar paper that is used for roofing huts, and many with cardboard well tarred—but distributed among them are 1,400 sections. I am an optimist; I felt, with the healthy stocks to start with, I should make £50, but it will be far more when all is finished for this year.

I paid a visit to Squire Tomlinson's apiary at Wimborne (while waiting till my horse was shod). He is another optimist; he aims at exceeding his last season's output. He keeps Italians; they seem a very fine lot, fine workers, very gentle, and such a pretty strain of bees. His hives are as tall as himself, and he is of average height; he beats me in honey production, as he mostly works for run honey. He uses standard bars above the brood chamber, then shallow bars, and a rack of sections on the top; he extracts and uses them again.

While I was there the carrier brought him a small milk churn for a hundred-

weight of honey to be sent to Bournemouth; his bees are in a walled-in garden, all modern hives and painted well. Several small three-bar nuclei working up for sale (he has sold £10 worth this year); everything shows a keen knowledge of bee-keeping, and progress. He is an example of Emerson's dictum, "There is no such thing as standing still: so soon as you cease progression, retrogression begins."

I wished I could have stayed longer with him; he has clean, healthy bees; he has tried all the remedies for keeping away bee disease—Lysol, Zysol, Izal, Bacterol, and many other "ols"; he has quite a row of chemists' bottles in his store, but he is keen on the parson's remedy, Dioxogen. Nothing seems to put extra energy into any of his hives like this spraying with oxygen; no hanging about the entrance, but always out and off at once. What a good thing it was for the bee-keepers that the reverend gentleman should let the craft know of this wonderful supply of energy to the bees; it would be a good thing, Messrs. Editors, if you could get Mr. Tomlinson to give you a few "pars" about his system of management.

On Saturday evening I went and saw a rose-grower friend at Blandford, who at one time was a large bee-keeper, but his stocks all died. He has now begun again. I took him over a small swarm that had just come out, and advised him to take it up to the other end of the nursery, as the disease seems to be about Dorset still, and fresh places are better for new, clean stocks. I saw last week a new swarm that was brought to a garden where the bees died two years since. They developed the disease after being there ten days, and were crawling about the paths, stinging the children. Of course, they may have had it before they came, but it is better to be safe and not to put them in the same place where others have died.

I see the bees are working the rambler roses very assiduously this week, particularly the Blush rambler and the single scarlet Hiawatha. (These are easy to grow: cuttings about a foot long dibbled in the soil and made firm with the heel of your boot in October and November would soon make a dense hedge. The cuttings should be either cut off just below a joint or leaf. The secret of rooting is to make the soil firm and put them in about seven or eight inches deep, only about three eyes above soil.)

They are hunting over the asparagus blooms and the new flowers of raspberries; the privet flowers are looked over, but the blackberries are a continual feast. All the pasture fields are full of clover; there is plenty everywhere. The surplus honey gathered this year ought to be very heavy. —J. J. Kettle.

CONTINENTAL TRIP.

In closing these articles, I thought I would like to describe some more of the beautiful scenery one sees during the course of a long journey, of which there are so many in this beautiful country. After one or two hasty retreats from some heavy thunderstorms we are at last able to all get seated. As usual, we have to pass through acre upon acre of fully-cultivated ground, although one sees very few people about except women. Every odd corner seemed filled with fruit trees of all kinds, a large portion of which were grape vines. I saw several small apiaries, chiefly skeps, and a square building labelled, "apiculture," but as I failed to see any hives I concluded it was a lecture hall. A little further on I saw a couple of odd hives; one seemed 15 in. square and about 3 ft. long, with a gable roof running lengthways, while the other was about the same square and piled up three tiers high, and if moved together they would have made quite a miniature cathedral, and however awkward they may have been to the owner, we may be quite sure of the earnestness of the worshippers, at the shrine of self-denial. However, if on bars they looked as if they might be interchangeable, and we must admire the ingenuity of the bee-keeper who can make so much of his materials and circumstances so far away from co-partners.

I also saw a straw hive, of nineteen storeys, and the entrance seemed to be in the middle joint. I have seen one before like this, but have not been able to get near it.

We ride by a very wide shallow stream which seems to be meandering along as if too lazy to move when, striking some big boulders, it suddenly awakes and makes quite an angry show of itself, "to think it had been caught napping," and then rushes along to take part in the angry scenes of "life." An interesting feature is the miles of deep cuttings for the railway, some walled, some natural, and covered with nearly every kind of foliage, one wonders how it possibly thrives on the apparently soilless, rock and chalk slopes. Circumstances compel me to stop here.—A. H. Hamshar.

"LIVE BEES."

According to the *Berliner Tageblatt*, the officials at a small railway station in Prussia recently examined six beehives, which were marked "With Care: Live Bees." On opening the hives they found 108 ducks' eggs, 650 hens' eggs, 13lb. of butter, and 30lb. of wheaten flour, which were being dispatched to an agent at Hamburg.—From *The Times*.

THE APPLE CROP AT STOCKSFIELD, NORTHUMBERLAND.

I made a report last year upon the Apple Crop at Stocksfield, in which I suggested that the failure of growers to get a fair average crop might be due to the bad weather in the spring of 1916, which hindered the bees in the necessary work of pollinating the blossoms. As there is once more great disappointment at the non-setting of a fine display of bloom I have called upon many of the growers, and now I offer a few suggestions on this season's vanished apple crops.

Some varieties are cropping satisfactorily in nearly all gardens, notably, Lord Grosvenor, Worcester Pearmain, and Lane's Prince Albert. Others have failed to set a good crop, including Bramley's Seedling, Newton Wonder, and Cox's Orange Pippin. I could give many more comparisons of the endless number of varieties, but the above named are the most popular, and I propose for the sake of clearness to leave out all the others.

When a Lord Grosvenor in the spring of the year arrays itself in pink and white you can be assured absolutely that there will follow a good crop of apples. I speak from long experience, and I will say the same of Worcester Pearmain and Lane's Prince Albert. Whether these varieties are self-fertile or self-sterile does not appear to make much difference. Lord Grosvenor is self-fertile and sets too much: it needs thinning. Worcester Pearmain and Lane's Prince Albert are announced to be self-sterile, but nevertheless they are prolific croppers. The choice of heavy reliable cropping varieties is the decisive factor that ensures success in getting a supply of apples for the table or kitchen. Many of the varieties grown are of little value as croppers. It is strange how reputation hedges in a Cox's Orange Pippin. One grower has more than twenty big trees of Cox's, and although he could "put the crop in his hat" there is no intention to replace them by better bearing sorts.

Bramley's Seedling, Newton Wonder, and Cox's Orange are self-sterile varieties, but undoubtedly there are wide differences in self-sterile sorts, many of them having a strong emphasis on the "sterile," and these are usually described in the nurseryman's catalogues as "Shy bearers."

There was an entire absence of frost this spring during apple bloom, which makes less difficult the task of finding the cause or causes of the failure of a tree to set a crop. I must again go on record as saying that the failure can be due only to the inattention of the bees, in the case of the self-sterile varieties especially.

Whilst the American growers and some of the largest English growers are most emphatic in their appreciation of the value of the hive bee as a polleniser, there is not in this country any reliable information to show whether we depend to any appreciable extent upon the hive bee in setting the apple or other fruit crops. It has been stated that the recent disappearance of the hive bee in the Isle of Wight—owing to the disease designated by the Board of Agriculture as *Microsporodiosis* caused by *Nosema apis*—has not been accompanied in the island by any shortage of the fruit crops. If there is no fallacy in this it merely indicates that the pollinating of our fruit blooms mainly depends upon the wild bees such as the humble and Carder bees, and the smaller solitary bees—the latter are very numerous here. However, there is no manner of possible doubt that the setting of the apple bloom is dependent on the transfer of pollen from one flower to another, and it is a safe assumption, I think, to associate the failure of the bees to perform this essential work with the non-setting of the blossom.

Having indicated that, in my opinion, the main cause of failure is in the bad choice of varieties, I now give in some detail this and other contributory causes of the crop failures:—

(a) Too many of the varieties grown by disappointed growers are shy croppers, or self-sterile, needing pollen to be carried by bees from other varieties (pollen from their own sort won't set the fruit) thus lessening the chances of a set.

(b) There was probably a shortage of wild bees owing to the "coldest April on record"; hive bees we know were scarce, due to the "Isle of Wight" disease, and the cold April retarded breeding.

(c) The apple trees were very late in flowering and the scarcity of bees would be more felt through many other nectar producing flowers coming into bloom this year at the same time, notably the sycamore tree, and competing for the bees' visits.

(d) The methods of pruning so much practised lessens the opportunity of the tree to produce blossoms on a lavish scale, and thus, as it usually takes on an average about twenty-four blossoms to produce one apple, the possible number of sets on a tree is, on the law of averages, very much diminished.

(e) The few growers who are getting bumper crops rely on never-fail prolific cropping varieties.

(f) The trees that are carrying the heaviest crops have never been touched with a knife since planting, except to thin out low or overcrowding branches.

(g) It is rare that a grower who prunes hard will take the trouble to root prune, and many omit to summer prune in July.

—J. N. KIDD.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

TREATING "ISLE OF WIGHT" DISEASE WITH BACTEROL.

[9476] Will you allow me space to answer the many inquiries as to my method of treating "Isle of Wight" disease with "Bacterol"?

Dissolve ¼ lb. lump sugar in one pint cold water, and add two teaspoonfuls of Bacterol.

Spray bees and combs every other day, and pour two or three tablespoonfuls between the combs.

By clearing each other and the floorboard the bees physic themselves, hence the cure in about ten days.

I have had several cases, some very bad, but not one failure to cure. Outside crawlers I do not bother with.

In the case of healthy stocks, as a precaution, I should treat exactly the same way after surplus has been removed, and if feeding up is necessary, medicate the syrup in the same proportion.

Just one word to a certain class of correspondent.

In my younger days we often paid a visit to the bears' den in the London Zoo, and were frequently told to "leave the brutes alone."

I will still follow that advice, for it is evident there are bears among the bees, with very sore heads. I won't say bee-keepers, as it would be a libel.

W. J. GIBBS.

P.S.—I may say that out of eleven inquiries only one contained a stamped envelope for reply!

A RECORD IN HONEY GATHERING.

[9477] I notice in B.B. JOURNAL, July 19, "A Record in Honey Gathering" (9473). Surely a "full" cap must have been put in the skep by mistake, otherwise the bees must have worked quite contrary to the books, which all tell us that the bees never cap honey till it is "matured." Your opinion on this would be of interest to A NOVICE.

[Bees will not seal honey until it is "ripe," but there is no fixed period in which this stage is reached, and Mr. Hancox states the honey was as dense as he has ever seen.—EDS.]

A RECORD FOR SWARMING.

[9478] I am sending you an account of my attempt at bee-keeping this year. From what two friends—who have both kept bees for several years—tell me, I think my experience must be very exceptional and a record for swarming, it certainly has not been very encouraging to a beginner. From a well-known trade advertiser in your BEE JOURNAL, I bought one stock of hybrid bees on ten frames—three not drawn out—and two W.B.C. hives, which were delivered second week in May. I left them on ten frames, and they worked well, increasing rapidly. June 5, I put on a full super of shallow frames, fitted full sheets foundation, so as to give them

plenty of room and prevent swarming if possible. June 13 (Wednesday) I looked at them about 9.30 a.m., and found two queen cells not capped, which I cut out, but they swarmed the same day at two o'clock. I had never seen a swarm, but I took them successfully, and hived them the same evening in hive No. 2. The next day I took a stray swarm in a field which had been there from the previous day. These I hived temporarily in a travelling bee box until Sunday, June 17, when I united them to parent stock, hive No. 1, after cutting out two cells, flouring the bees on frames as I put them in alternately. Fully half were still left in the box, so I tried to tip them out in front. I could not get them out of the box for some time, suddenly they went up in a cloud and settled on No. 2 hive. The queen must have been with them, for I

found, after some time, I hadn't a queen in No. 1 hive. A great number got into No. 2 hive before I could stop them, but I floured them, and they seemed to unite peacefully: whether the queen entered, too, I cannot say.

June 20, one week later, the swarm—No. 2 hive—swarmed again, and I re-hived them same evening, after cutting out queen cells. June 25, I cut out four more queen cells, and the next day, on the advice of a bee-keeper friend, in an effort to get some honey before too late, I united both hives, putting the two brood boxes one on top the other, with twenty brood frames, and a super on top of that.

I have ventilators in the bottom of the hives cut in the floor boards, which I kept open, closing late at night, and kept them lightly covered to be as cool as possible. The hives face south.

Two days later, June 28, they swarmed again, so I put the swarm on the old stand, and moved parent stock to new place in hive No. 2. The swarm was now in its old original hive. July 1, the swarm swarmed again, and I threw them back in the evening. July 2, for the fifth time they came out again, and I had to take the swarm twice; as I was hiving them in the evening they went up again, and I had to retake them. I had kept all queen cells cut out. Now, as a last resource, I watched for queen, caught her as she was about to enter, and took her away. July 7, I cut out thirty-one queen cells, a record I should think. Some of them were very short, only half the ordinary length, and were in groups; several groups of fours I cut out together. July 13, they swarmed again at 10.30 a.m., and also in the afternoon at 2.30 each time, after clustering for a short time, returning to hive. Cut out ten more queen cells, one short, one containing a rather dry *worker* bee, dead, of course. July 14, they again came out, clustered and returned. The ten frames are very full, but the super on top is not drawn out, though the bees are in them. If they do not like hive and position, why did they stay until June 13, and as there is only a little *capped* brood left now, why do not *all* the bees leave the hive? I am in despair, and should be glad of any advice, or information as to what I ought or ought not to have done. Needless to say I shall not get any honey this year. The parent hive has been no trouble, and has raised a queen which is now laying. I hardly feel like going on another year, though I have been at considerable expense in starting, to say nothing of the time spent in watching them and taking and hiving swarms.

(Mrs.) F. Carlton.

[Our correspondent omits to say if or when the supers were placed on the hives. The bees are evidently persistent swarmers. When the first swarm came off it should have been hived in No. 2 hive, and placed on the stand occupied by No. 1, and supered, No. 1 being moved to another stand. It was a mistake to unite the swarm to either of the other two, better have put it in another hive, or sold it. It would have been better to super the two stocks separately, or have given at least two supers when they were doubled. Was this the same super that was originally on No. 1 and that is still not being used by the bees? So far as we can judge from the letter much of the trouble has been due to inexperience and lack of super room.—Eds.]

PRICE OF HONEY.

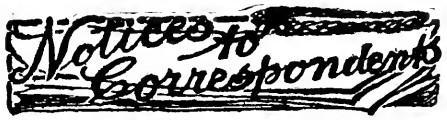
[9479] I notice in Bee Journal, July 12, pp. 217, Mr. G. W. Judge quotes price honey should be. I am sure his fixed price is too high. Sections 2s., 1-lb. jars 1s. 9d., and ½-lb jars 1s. I am one that thinks we have been bled white with the high price of our food, and I should be very sorry to think bee-keepers were on the same track, for honey is not worth that price. If I can retail my produce at 1s. 6d. I shall consider I am very well paid. I have got, and have had, for many years, good customers—nay, friends— and I could not think of insulting them, by asking Mr. Judge's price. Wholesale price, 25 to 30 per cent. less; wholesale buyer could not make it pay. If it had to travel by rail there would be carriage, leakage—sometimes a tin half empty—and then find jars, it could not be done. There may be a good demand, but not at that price, and I believe it is a good honey season; at least, it is with me, for I have not had so much honey for years, as now; one stock, pure Italians, has given me two racks shallow frames and one rack of sections, and then thrown off a swarm that I had to use two skeps to get them in. My experience of Kent is, honey could not be sold there at the above price.—Jas. Pearman, Derby.

HONEY RECIPES.

HONEYED APPLES.

Cut two quarts of apples in small pieces. Heat two cups of honey, one cup of vinegar, and one teaspoon of cinnamon together, and cook the pieces of apple until they become transparent—a few at a time. Pour the syrup that remains, after all the fruit is cooked, over the apples.

A good jelly may be made with winter apples, using a cupful of honey to each cupful of apple juice, and proceeding as in ordinary jelly making.



"T. M. H." (Shrewsbury).—*Description of Hive.*—We do not know a hive exactly like the one you describe. You may refer to Nutts' inverted hive, described and illustrated in his book on the management of bees.

"VERACITY" (Wexford).—*Treatment for Foul Brood.*—Move the hive to one side after blowing smoke in at the entrance. Place a board two or three feet square on the ground where it stood, and over it spread a piece of cheese cloth, scrim, or other fairly open material. This should be at least a yard square. On this stand the skep or box into which you wish to put the bees, propping up one edge with a stone. Give the bees a little more smoke and remove the quilt, blowing smoke under it as it is lifted, replace, and roll back at one edge so as to expose one comb. Lift this out and *shake* the bees from it close to the opening of the skep; the few bees still adhering to the comb after shaking may be brushed off with a feather or a twig, but do not attempt to *brush* the bulk of the bees from the comb or they will become angry. Proceed in the same way with the rest of the combs, using smoke as necessary, and keep a look out for the queen. When all the bees are off the combs, take the latter away and burn them. When the bees have settled down from under the skep, the stone may be removed and the cloth gathered up and tied securely round it, then turn it bottom up, and keep in that position until the bees are re-hived. Dutch bees are about the same in colour and temper as natives, their distinguishing characteristic being a proneness to excessive swarming. Italians are very quiet to handle, more given to swarming than natives, but not so bad as Dutch.

G. R. STRONG (Magor).—*Identification of Flower.*—It is Knap-weed, or Hard head (*Centaurea nigra*). Bees gather a medium quantity of honey and pollen from some species of the plant.

C. F. HOILE (Hants).—*Variety of Bees.*—Italian hybrids.

"OWLER" (Lincs.).—*Difficulties in Transferring.*—If there is brood in the bottom frames of comb, blow smoke into the skep through the hole at the top, giving a few puffs of smoke at intervals for several minutes. This will probably cause the queen to go below. Then place a super clearer under it. When the skep is taken away examine it and the Porter bee escape for the queen. If not there, it may be taken for granted she is in the hive, but examine it four or five days later and see if you can find either the queen or eggs. If instead of either of these you find queen cells, the queen was lost. You bar the only satisfactory method of finding the queen, viz., driving. Take the skeps off now. The secretary of the Lincs. B.K.A. is Capt. J. H. Hadfield, Alford, Lincs.

"UN OR WLAD" (Carnarvon).—Your letter does not make quite clear what has happened. So far as we can make out the swarm was hived in two shallow frame boxes, on three standard and seven shallow combs, thus leaving a 3in. space under the standard combs, but you do not say if the shallow combs have since been replaced by standard combs, or if the bees have built combs from the bottom bars of both kinds of frame to the floorboard—or do you want to know how to replace the shallow combs? You had better allow the bees to winter on the combs they have built. They may be transferred to a standard body either now or in the spring, by cutting the comb entirely away from the bottom bars of the standard frames and cutting three inches off that built from the bottom of the shallow combs. If you have any spare drawn out standard combs, put them in the place of the shallow combs; if not, take two out when packing up for winter, closing up with the division board. Remove as many more as possible in the spring, and as the bees need room, insert standard frames fitted with foundation. We are afraid it is too late to do this now—the season is too far advanced to be certain that the bees will be able to build new combs and store them for winter without feeding.

"NOVICE" (Shropshire).—*Size of Standard Frame.*—This has not been altered, but is as given in the "Guide Book": Top bar 17in. long, depth 8½in., and length 14in., outside measurements. Any other sizes are not "standard."

E. HOPKIN (Worcs.) AND OTHERS.—*Price of Honey*—See "Seasonable Hints."

Honey Sample.

M. HART (Mont.).—Clover honey; A1 quality.

Suspected Disease.

W. HUNT (Hants.).—"Isle of Wight" disease is developing.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

August 4th, at Wye, near Ashford, Kent.—Kent Honey Show, 13th Annual Exhibition. Classes to suit all bee-keepers. Splendid prizes One 6 guinea and two 5 guinea Challenge Cups; also two champion silver cups. Schedule and entry form free on application to Mr. Alfred Lepper, secretary, Kent Honey Show, 8, Scotton-street, Wye, Kent.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1d. per word as "Business" Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.

PRIVATE ADVERTISEMENTS are only intended for readers having Surplus Stock to dispose of. Driven Bees, Nuclei, and Queens that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

GEARED Extractor wanted, in good condition. —Particulars to PERCIVAL, Moor View, Biddulph. h 52

ITALIAN Bees, strong, healthy, 1917 queen, from Italy this year, a few stocks only to dispose of, £5 a stock; crowded with brood and bees.—A. WIGGINS, 1, Swinderley-road, Wembley. h 53

WILL any bee-keeper assist invalid bee-keeper (ex-Army) by suggesting district on chalk where apiary of 50 stocks can be kept? Wanted, charlock, white clover, sainfoin, and possibly fruit. Perhaps mutual arrangement. Hants preferred.—BOX 12, BRITISH BEE JOURNAL Office, 23, Bedford-street, Strand, W.C.2. h 55

SURPLUS Bees for sale, strong, healthy stocks on 10 frames, hybrids, 1917 queens, price 45s. —RIVERS, Downs-road, near Southfleet, Kent. h 54

PRIME 1917 Clover Honey for sale, price 168s. per cwt., in 28lb. tins; or 1lb. screw top bottles, 21s. per dozen; also 150 Sections, at 1s. 9d.; free delivery. — MRS. ROLLETT, 4, Neal-street, Leicester. h 56

42 GOOD Light Sections. What offers?—SEMMONS, Leiston, Suffolk. h 57

WANTED, few good Sections.—A. WARREN, Old Lane Bee Apiary, Simpson, Bletchley. h 58

2 CWT. Light Cambridgeshire Honey, 120s. per cwt. on rail.—R. WHITTING, Manea, March. h 59

WANTED, few lots healthy driven Bees; price and particulars.—EDWIN GLOSSOP, Ambergate. h 60

1917 FERTILE Queens.—Few for sale at 3s. each. — HOSEGOOD, Burgate, Heathhurst-road, Sanderstead, Surrey. h 61

WANTED, standard publications on bees; state name, condition, and price. Also, Chambers's Encyclopædia; giving the year of publication, etc.—HEATH, Willaston, near Chester. h 62

TWO strong healthy Stocks, on 10 frames, £2 each; particulars. Wanted, healthy hives, etc.—REV. DAVIES, Parsonage, Devil's Bridge. h 63

WILL exchange ungeared Extractor for good swarm of Italian or Dutch bees, or sell for 18s.—HILL, High-street, West Melton, Rotherham. h 64

BEESWAX wanted.—State quantity, quality, and price to COLBECK, Carnforth, Lancs. h 65

GENTLEMAN, commencing bee and poultry farming for profit, requires small FARM, about 10 acres, to let early next year, within 50 miles London, in good honey district, where also heather. Must be within 5 miles of good county or market town for disposal poultry produce, also on main line railway. Small house, about 7 rooms, modern conveniences, gas, telephone possible, stables, plenty outbuildings, sandy or calcareous soil. Full particulars, rent, photo.—Box No. 13, British Bee Journal, Office, 23, Bedford-street, Strand, W.C.2. h 66

BEES for sale.—A number of strong healthy stocks, chiefly Italian, 50s. each. Vendor called up.—EDE, Wolsey-road, East Molesey. h 67

BEAUTIFUL Bee Hive free!—Wanted, gentleman's Residence, small, to hire, or cash purchase, between now and Christmas, 100 miles from London, not East Coast; shooting sport district liked. If suitable home found, new hive given; letter stamps refunded to writers.—Islington Hall, King's Lynn. h 71

A FEW strong secondhand Hives to sell at 12s. 6d. each; also Travelling Crates for honey.—Particulars of latter from "HIVES," c/o Bee Journal, 23, Bedford-street, W.C. h

BEST English Honey wanted in bulk; also 16oz. Screw Cap Bottles, new and clean; quote price f.o.r.—WILLMORE, Grocer, Falmouth. h 74

HEAD your colonies with my 1917 young vigorous three-banded Italian queens, bred for honey production and disease resisting.—HUDSON, The Apiary, Abbey-street, Worksop, Notts. h 73

FOUR splendid Stocks, Hybrids, 1917 queen, packed with brood, 35s. each, carriage extra; healthy; just ready for heather. Wanted, Honey, sections and extracted.—J. BOWDEN, 167, Ellerton-road, Tolworth, Surbiton. h 45

WANTED, Stocks and Swarms of Bees, any variety, any quantity; copies of the "American Bee Journal," January-June, 1917.—S. H. SMITH, 30, Maid's Causeway, Cambridge. h 29

SURPLUS 6-frame Dutch and Italian Stocks, £2, or offer; four tested Queens, 4s. each, selected, 5s.—A. TROWSE, 51, Eade-road, Norwich. h 41

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

"ISLE OF WIGHT" Disease permanently cured without loss of bees; solution, 1s. 6d. tin, post free.—PRESSEY, St. Elmo, Coulsdon, Surrey. a 9

SECTIONS and Extracted wanted for cash.—T. SMITH & CO., 17, Cambridge-street, Hyde Park, W. 2. h 46

CHOICE prolific English and Hybrid Queens, 5s.; 3-frame Nuclei, £1, including box.—HOLLINGSWORTH, Heanor. h 47

TRY my new remedy for "I.O.W." Disease, in powder form. Easiest, simplest, and most efficient. Test its merits against any other remedy. 2s. 6d., post free.—A. TROWSE, 51, Eade-road, Norwich. h 49

ITALIAN 1917 Fertile Queens, 5s. each.—CADMAN, Codsall Wood, Wolverhampton. h 50

HARDY 1917 Italian Queens, pure, fertile, reared in France (see last week's advt.), 5s. 3d. each. Mr. F. Temple, Chemist, Eastbourne, writes, May 10, 1917:—"Please send me one Italian queen like the one I had from you before. She did very well indeed last year."—ELLIOTT, "Westfield," Kelvin-road, Ipswich. h 24

BEES WAX, in any quantity, 1s. 9d. lb. given. —CHARLES FARRIS, 71, Bishopsgate, London, E.C. 2. a 8

SECTIONS, first grade wanted, in small or large quantities. Please quote price, carriage paid to THE HONIELADE CO., 100, Hackford-road, Brixton, London, S.W. 9. Best grades Colonial Honey for sale. h 27

HONEY, EXTRACTED. — Advertisers invite offers of heather and other kinds of home-gathered, in bulk. Last season's or this season's when ready. State probable quantity and lowest price for prompt cash.—"R. J.," Bee Journal Office, 23, Bedford-street, Strand, W.C. 2. a 5

HOW to cure "Isle of Wight" Bee Disease. Send stamped addressed envelope to MR. P. N. GELSTON, Pharmacist, Basingstoke.

DRIVEN Bees for sale, end of August. Special terms for wounded soldiers. — REV. DAVIES, Parsonage, Devil's Bridge. h 63

WANTED, guaranteed healthy lots of driven Bees, any quantity taken, delivery on or before first week in August. Deposit.—CLARK, Divity, Lesmahagow, Lanarkshire. h 68

DRIVEN Bees, delivery August 14 onwards, 7s. 6d. per skep stock, plus carriage.—STRATTON, Barn-lane, King's Heath, Birmingham. h 69

FERTILE Queens by return of post, Italian-Dutch cross, gentle, good honey gatherers and disease resisters, 4s. 6d. each.—HILLMAN, Expert, Bridge House, Stonehouse, Glos. h 70

A FEW Surplus Nuclei, 3 frames, packed with brood, young fertile queens, Blacks or Italians, cash with order, 16s. 6d., carriage paid. Queens, fertile, vigorous strain, 5s.—CLARIDGE, Copford Apiary, Colchester h 72

SUGAR FOR BEE FOOD.

We are still receiving a number of letters asking for sugar for feeding bees. It is quite impossible for us to obtain any, and it is only a waste of time and stamps writing to us for it. Up to the present it can only be obtained in the form of the candy made by Messrs. Pascall, and which any of the appliance dealers can procure for their customers.

DEAD BEES WANTED.

We have been asked to procure, if possible, for experimental purposes, about 1 lb. of dead bees, which there is strong ground for believing have been killed by taking the liquid used for spraying potatoes. We shall esteem it a favour if any reader can send some to the B.B.J. Office, 23, Bedford Street, Strand, W.C.2.

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Major J. A. Dawson, 24, High Street, Laurencekirk.—1/7 Gordon Highlanders.

Private A. Webb, 59, Denmark Road, Norwich.—Royal Fusiliers (wounded).

Private H. Basingthwaight, 11 Dereham Road, Norwich.—Labour Unit, B.E.F., France.

A DORSET YARN.

Five stocks of bees, after swarming, are now sending out young bees with yellow bands, either the young queens mated with Italians, or the teaching of Mendel is exemplified. His dictum was that "the direct results of crossing plant life gave the best results in the second year." I have found it so as a horticulturist; it must be so with insect life, because in the spring of 1916 I had two stocks—one Italian and one brown, the latter a small one—left out of 25. All the swarms threw out brown bees; all that year no marks were to be seen on them; the bees of the Italian stock itself lost their markings, and all came plain. This year I started with 13 extra English blacks (one lot was very black), thinking that they would mate with my old stock and give me extra blacks; but one of the imported stocks of blacks is now throwing out young bees with yellow bands. Four swarms of my old stock of 1916 are now turning out marked bees. I acquired two Italian swarms this year, but not soon enough for the drones to mate with the young queens, and the hybrid stock I had half a mile away; they, too, have since swarmed, and are now at this Farm. The nearest Italians to my lot were two miles away; the males would not come so far to mate with the young queens. Anyway, there it is; a lot of very prettily marked hybrids now working with the old stocks, showing this year's queens have gone back to the 1916 colour. The eyes of the males are not so black as before.

Bees this week are working the privet largely; here and there are to be seen a late-flowering chestnut. The sweet chestnut will be the last of the forest trees to give nectar to the bees, but the fine rains will make the clover last a long time. Some of this year's swarms, even with three racks on, are building and filling combs between the brood-box and outer case (some of them did the same last year). It shows they are still breeding fast, and not filling up the brood cells with honey. I have cut my field close to the trees (nearly 20 acres), but the Dutch clover soon throws up its flower-stalks again after the cutter has gone over them, and the adjoining fields are fed by stock, but they do not eat off the Dutch clover like they do the red.

Of all the flowers that grow in hedgerows by the wayside—and to-day there are a great number—very few attract the bees. The Willow Herb (*Epilobium Angustifolium*) gives off a lot of flowers now, and the bees eagerly search them for nectar. This plant grows wild in damp woods, and will grow 7 or 8 ft. high; it is easy of propagation, as it sends out what are called rhizomatous growths at the base for next year's flower stems; these, if dibbled in, would soon make a forest of the Greater Willow Herb. The flowers do not last long, but

they open at each node of growth, which makes the flowering period a long one. Note when planting—Let the growths be a yard apart, as they spread so much each year. A lot of this fine plant is now in bloom close to Poole backwater at Sterte, in Berkshire. It is to be found in the damp woods where the small brooks flow from Sunningdale to Virginia Water. In the 'seventies of the last century large breadths of it were to be found growing in the woods of Cowarth Park. Then in many a cottage garden were to be seen the rows of skeps, a large source of food for the cottager's children; now you may drive miles of Dorset roads and not see one! Going back to the Willow Herb, be sure not to plant it in your borders of choice perennials, or it will assuredly crowd out everything else.

During the past week were gathered the first tree of harvest pears—not large, but very sweet. The others must be gathered, as the branches are bending with their weight. The bees searched the flowers well for early food; now I get the results of their labours in two ways. The stocks of bees are very strong owing to plenty of early food—over a thousand sections of honey—and now the payment for the pears, and, what is a remarkable coincidence, a large number of the cheques in payment are drawn on Lloyds Bank, which has a skep of bees on each cheque. Whether it is for fruit or honey the cheque in payment has the hives of bees on it.

Every member of the craft that can, should be a fruit grower as well. One gets a double pleasure, as the fruit blossoms fade you can see the fruit develop; all the growing period is interesting, even the humble gooseberry, as each variety ripens, takes a different colour—even the green ones get quite transparent. This week the early American peaches are ripe; their large, rich coloured fruits are a fine sight to see swaying in the wind on natural-grown trees. The bees did their part in pollination; some of them have swarmed in their branches, now one can see and taste the results of their labours. I have always, when spinning yarns on horticulture, found that it is far easier to teach with the eye than with the tongue. Let the audience *see* how to do it, and show the results of the method you advocate; so when the fruit growers visit the Violet Farm and see the heavy crops of fruit they say it is all owing to my system of culture, but I show them the hives of bees and tell them that these are the workers, not myself, but these little communists who work "without money and without price." It calls to my mind that quotation of Shakespeare, which he puts in the mouth of the French countess who has trapped the Lord Talbot to her castle, and saw him as a small-built man: "Is this the scourge of France, this shrimp of a man?" She thought he was her prisoner, but the Lord Talbot moved over to the opening in the walls and blew a long blast with his horn, and from every bush and every tree armed men came into view, and Talbot the General made answer, "These are the 'conquerors of France,' my lady, not me—these men of English blood." It is to be found in one of the Henrys in Shakespeare's plays. It is some years ago that I "yarned" it in the open air at a Brigade camp in the New Forest.

I show my visitors (quite a lot this past week) the hives, and say these are the pollinators; these pollinate the blossoms; these make sure that every seed will be perfect, these with the glorious promise, "Seed time and harvest shall not cease as long as the sun and moon endureth." The seed swells, and with that the luxurious pulp that envelops the seed swells in like manner; sun and warmth ripen the fruit. All these stages the fruit grower sees; then he reaps the reward, as much as he and his family require, then take or send away the surplus. This year the prices are paying ones, even though sugar is scarce. One shop to-day paid me for 1 cwt. of black currants at 6d. per lb., besides ¼ cwt. of gooseberries, with raspberries and Gladstone apples. We have gathered, when fine, each day as long as black currants have been ripe 2 to 4 cwt. The dairies are eager buyers of honey, and the farmers' co-operative salerooms in Bournemouth give a better price than the dairies; currants 7d., and raspberries 8d. per lb. People seem to be eating more fruit each year now—to my mind, a good deal better for the race.

If a bee man keeps a few hives in his garden for pleasure and profit the bees do the production; he uses or sells the honey, but the fruit grower who keeps bees can eat both fruit and honey and sell the surplus. He tills the soil for production. As Longfellow puts it, "Something attempted, something done," he earns the reward. In one of old Tom Richardson's novels many years ago I read, "The man who makes two ears of corn grow where one did before is a benefactor to his race." I have seen since that this is an old Chinese proverb. He who tills the soil for production truly lives—not merely exists; every hour of work is a pleasure. The days pass so quickly, but one sees the crops grow and mature; all show the wonderful works of God.—J. J. Kettle.

SHEFFIELD AND DISTRICT BEE-KEEPERS' ASSOCIATION

NEW APIARY.

A large number of members of the Sheffield and District Bee-Keepers' Association and friends visited the apiary which the Association has established at Little Norton to hear a lecture and demonstration on practical bee-keeping by the Secretary, Mr. W. Garwell. The apiary has been established to give practical advice and instruction to those wishing to commence bee-keeping, and also to help members to start again who have lost their bees through "Isle of Wight" disease. The lecturer showed how to keep bees under control during manipulation, also explaining the necessary applances, and how to use them. A good crop of honey has already been gathered, and those present were able to see a demonstration on how to take the honey from a hive with very little disturbance to the bees.

STREET AND GLASTONBURY BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting was held in the garden at Portway House on Friday, July 13, Mr. Bacon in the chair. After the routine business had been disposed of an interesting discussion took place on "The 'Isle of Wight' disease and re-stocking." A scheme, which is successfully worked by the Kent Bee-Keepers' Association, was fully explained by Mr. Bigg-Wither, the county secretary. A similar scheme is being planned for Somerset. The proposal provides that each member should have the option of a stock of bees in return for taking up a 10s. share—a great advantage, considering that the market value of stock of bees at the present time varies from 21s. to 100s. The bees are from a selected strain that has considerable resisting powers to the "Isle of Wight" disease. Two or three stocks have already been bought for this county, and they will be increased in number as fast as possible. Two of the members present, unknown to each other, had for a number of years been experimenting with a view to finding an immune bee, or one that was not liable to take the "Isle of Wight" disease. They both appeared to have been successful, one of them declaring that his bees would survive after being placed on infected combs. This is a great advance, as the authorities tell us that a bee, once infected and developing the disease, never recovers. To a casual observer of the discussion it appeared that the disease-resisting hybrid evolved by the two local breeders and the bee at present being stocked by the Kent Bee-keepers' Association were all identical in strain. In this hybrid the blood of the good old English black bee is not much in evidence, the predominating features belonging to the Italian race of bees. A practical illustration of what the bees could do was then given by an inspection of six stocks of bees very busy gathering honey. One of the hives was on a pair of scales, being weighed every day and a note being kept of the amount of honey coming in. The visitors' estimates of the yield for that day varied from 2 lbs. to 5½ lbs. The scales showed the actual yield for the day to be 10 lbs. — a very good day's work. Since May 1 this hive had increased in weight 340 lbs., and the probable amount of honey which they will yield to the owner for this season will be 300 lbs.—a record yield for a stock of bees in this district. The honey was very clear, and after being sampled pronounced of excellent flavour. Another stock of bees was headed by a queen bee which arrived a few days before by post from Italy. She had had a somewhat trying journey owing to the war and the attentions of the censor, but had quite recovered from effects of the journey and was comfortably settled in her new home. After an inspection of the fruit trees and "war garden," where haricots, Dutch runner beans and other varieties of beans are grown for winter use, the company separated, looking forward to keeping bees again in the near future and with a confident hope that they would be able to keep clear of that dreadful scourge, the "Isle of Wight" disease.

AN APPRECIATION.

We are receiving letters every day containing messages of appreciation of the BEE JOURNAL.

In fact, did we so desire we could fill columns of our paper each week with these letters. Our aim is to give to our readers practical matter and the best advice we possibly can, also to keep our contributors posted up in all the latest developments in beekeeping both at home and abroad, instead of padding with a lot of irrelevant matter, which is the practice in some bee pamphlets. This is of no interest, except to the persons directly concerned.

We are justly proud and jealous of our reputation, therefore we are sure our readers will forgive a little digression from our rule, by the insertion of one or two extracts from the shoal of letters received, which prove conclusively that our

advertisement columns are without equal and that our efforts Editorially are appreciated by those who take advantage of them.

"Each time I have had occasion to write the BRITISH BEE JOURNAL I notice I have been most courteously received and the subject matter has received prompt attention, which I much appreciate."—M.J.

"I have received a copy of the BEE JOURNAL and I am looking forward to receiving others. I get very few opportunities for the study of bees here, but I have seen a few skeps about in the cottagers' gardens. All the same, it will be a *real treat* to see the BEE JOURNAL occasionally, and the arrival of this copy caused quite a lot of excitement, as there are other lovers of bees in our photographic section."—OLIVER G. PIKE.

From a later letter:—

"Since I wrote you at the beginning of May we have had a great many swarms out of the numerous skeps in this small village. . . . We are all very interested in the BEE JOURNAL which arrives safely each week, and there is quite a rush for it as soon as the men know it has arrived. Many of them have decided to take up bee-keeping when they return to England."—OLIVER G. PIKE.

"I wired you this morning to take out my advertisement in the BRITISH BEE JOURNAL. . . I am flooded with letters containing money and inquiries . . . and was cleared out first post. This speaks well for your valuable paper the BRITISH BEE JOURNAL."—W. I.

I have once more renewed my subscription to this darling little paper, the ever-welcome BRITISH BEE JOURNAL. It is quite a number of years since I first saw a copy of it, that copy having been left by its owner in a railway carriage his loss being my very great gain in more ways than one. Among others it has induced me to pay more attention to the English language, and has given me a command of words that nothing else has ever done. That is because the Journal is always so bright and interesting as well as so practical. I do not "keep a bee," but, through what I have learnt in theory, from these pages, I have often been able to help and advise some of my more practical neighbours when they have been in difficulties with their hives. Good-natured friends are apt to have their joke with me about my diligent study of bee-matters, since I am not a bee-keeper. To them I point out that I also study the mysteries of astronomy, and enjoy it, in spite of the fact that I do not keep stars, or even comets, in my back garden. Well, Mr. Editor, please go on in your good old way, keeping us thoroughly up to date as to what is happening in the bee-world, and may you be blessed in this sweet labour!—FRANCISCO DE SILVA.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

[9480] As I have found the records of the experiences of others which have appeared in this Journal most interesting, and also helpful, I am writing to record my experiences with my bees this year.

On opening my hives this spring, I found the bees in one hive, out of my four, all dead.

I had had no experience of "Isle of Wight" disease, and not much of bee-keeping, so I wrote to you, and you kindly diagnosed the cause of death as "Isle of Wight" disease, and gave me advice as to how I should proceed with the stock of honey in the hive.

I watched my other three hives anxiously, fearing they might be infected, and soon began to notice in one after the other—beginning from the hive nearest that I had lost—crawling bees and bees with their wings apparently disjointed, and dead bees outside the hives in considerable numbers.

Taking advice culled from the experiences of others, as given by writers to your paper, I proceeded to dust flowers of sulphur down between the combs and over the bees, and then sprayed a Bacterol solution in like manner, and fed the bees on syrup with Bacterol in it.

As I am now serving, I could only do this at week-ends, and I had to go on for several weeks, nearly getting disheartened at the persistent continuance of crawlers and dead bees. However, I persevered, and am glad to say that at last I got the symptoms under. The colonies became very strong, and last month all three hives sent out swarms, and seemed perfectly healthy.

I lost the best swarm, as I was, of course, away on duty, and the garden boy could not follow them; but to compensate for the loss, I was told, on getting home one evening, that two swarms had been located—one in a rather difficult place to get at. However, I got them, and had the two safely settled on some frames in makeshift hives by 10 p.m.

This brought my number of stocks up to seven, and all seemed to be going splendidly, until about ten days ago. On that day, being at home on leave, I looked at the bees in the morning, and all were very busy and going very strong. In the afternoon, however, I happened to go again, and found quite a cluster of bees on the alighting board of the latest swarm, and a stream of bees on the grass crawling about, in the line of flight. Closer examination showed that these were all apparently crawlers, and I realised that the taking of a strange swarm might not be an unmixed blessing. I proceeded promptly to spray the crawlers and the frames with a 5 per cent. solution of Bacterol; I also dusted in flowers of sulphur, and I have repeated this since for two week-ends; and last Saturday I found that the number of bees did not seem to have diminished, and there was plenty of brood—sealed and unsealed—and I can find no crawlers. So I am hoping that I have again got the trouble in hand.

In this instance I have not fed medicated syrup, as I have none available, and I have not found any dead bees; but the number of crawlers on the first day was very large, and gave me a great shock.

I see from the Report of the Horticultural Branch of the Board of Agriculture that no treatment can be considered effective unless the bees remain healthy for a considerable space of time. Can you tell me what space of time may be considered sufficient? [Say, 12 months, but there is always the risk of re-infection.—Eds.] Also will you be so good as to tell me whether it is unwise to disturb bees by opening them for examination at frequent intervals—say, once a week? [Yes, it is unwise, do not disturb them more than is necessary.—Eds.]

Apropos of the recent correspondence in the Journal as to the deleterious effect of spraying with Bacterol on brood, I must in fairness say that I have noticed no ill effects from my spraying. It is true I did not spray into the cells, but I sprayed freely down between the combs.

J. B. W. Branson.

EXCESSIVE SWARMING.

[9481] I was very interested in Mrs. Carlton's experience of swarming this year, mentioned in your issue of July 26, as I have also had a deal of trouble with a stock of hybrids (Italian-English cross). The stock I purchased in April have swarmed three times, and the first swarm has also swarmed twice. I have been more fortunate with honey, and have managed to secure about 28 lbs. from the parent hive and the first swarm, though of course this is poor; but, under the circumstances, I scarcely expected any. I think I was a wee bit late in putting on the racks, and so they got the "fever" before I could stop it.

Are the bees this year, do you think, taking advantage of the exceptional season for honey, to follow Nature's course of naturally increasing their species, knowing there is plenty of honey for any number of swarms that issue? It seems that "A Dorset Yarn" has his time well occupied this year in running after swarms. His articles are most interesting, and certainly very attractively written.

Are *hybrids* more prone to swarming? And if I had used shallow frames instead of section racks, should I have suffered less in the swarming line?

H. K. Springett.

[Hybrids are a little more prone to swarming than natives, owing to their Italian blood. All classes of bees appear to have swarmed more persistently the last few years, and strong swarms have never before seemed so numerous. Nature usually endeavours to restore her balance when it is in any way upset, and possibly the excessive swarming may be her method of counteracting the ravages of "Isle of Wight" disease among the bees. It is easier to control swarming if shallow combs are used.—Eds.]

A RECORD IN HONEY GATHERING.

[9482] In 9477 "A Novice" appears sceptical *re* Mr. Hancox in 9473. I think the following is even one better. Having out-apiaries, I often have to do as I can, not as I would, and practise unheard-of methods. On July 14, at 5 a.m., I went four miles to examine some supers (shallow frames). There were two boxes on each hive, the top one being all capped and the under one partially so. I removed the seven middle combs (each box contained nine) from the top one, and put in seven new frames, with full sheets of drone base foundation. On the 22nd I went to see what had happened after such an unmethodical operation, and, to my astonishment, all the combs were worked out and nearly all capped over, containing close upon 28 lbs. of honey. I give my experience for what it is worth, and although the putting of the frames into the top super is not orthodox, it helped over a difficulty, as I have little time on hand, and proved successful.

W. J. Gibbs.

[9483] In conversation with John Berry, of Llanrwst, yesterday, he suggested that this is not a case of honey *gathering*, but of honey *removal;* that he has many times had a similar experience under circumstances that clearly meant just carrying the already gathered and ripe honey from skep to super.

E. C. M.

A QUEEN-INTRODUCING EXPERIENCE.

[9484] I wonder how many of your readers have experienced the following:—On Wednesday last I had occasion, in bad weather, to introduce some imported Italian queens to two of my stocks, making two frame nuclei, as I thought, with the reigning queens, which were valuable queens of last year's breeding. The one queen must have dodged me on the post, however, as events will show. I said the weather was bad; it was half a gale of wet wind, but events would not wait.

Yesterday I was sent for, as a small swarm had come off another stock (itself a swarm at the end of May) and had decamped. I arrived just in time to see a large swarm issuing from the hive to which I had introduced a new queen. Fortunately, I caught the queen as she issued, and the swarm, after attempting to cluster two or three times, gradually drew back.

Opening the hive, imagine my surprise to find the queen which I had introduced in possession, she being easily distinguished by being distinctly banded. She was parading the combs just as unconcerned as possible.

Going to the nucleus where the old queen should have been, I got my explanation—queen cells—so destroyed these and caged the old queen.

Now, what puzzles me is: Why should the bees accept a new queen? (introduced in a candy travelling-cage, by the way), and, having accepted her, why did the two queens not fight? There was nothing the matter with the old queen—in fact, she was just at her best—plenty of brood, no queen cells. I may say they are just shovelling honey in at present, and at the time the shade temperature was 77 deg. Wishing you every success,

Tom Crane.

[This is another of the many vagaries of bees that cannot be explained, and a further proof of that well-known saying: "Bees do nothing invariably."—Eds.]

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

H. Myram (Bolney). *Bees Stealing Honey.*—The bees you sent were inveterate robbers. These robber bees will not gather nectar, but prefer to spend their time attempting to steal honey. Owing to their continual fighting in these attempts they "lose their hair" in a literal sense, and may be known by their naked, shiny appearance. The best thing to do is to kill them whenever possible.

Enquirer (Brecon). *Advantages of Joining an Association.*—(1) In the first place you will help to form a union of bee-keepers, whose aim is to further the interests of bee-keepers generally, and to encourage the keeping of bees on modern and humane lines. You will get into touch with bee-keepers near, and be able to both gain and impart knowledge. Most of the county associations send an expert round at least once a year who will examine your bees if you wish, and give you any advice. If the association is affiliated with the B.B.K.A. you may, if you wish, exhibit at shows at a reduced entrance fee, also insure against loss or damage caused to third parties by your bees at a lower rate than non-members, and also have the Record for 2s., or the *B.B.J.* for 5s. 6d. post free. (2) Herefordshire—Hon. Sec., Mrs. H. Mynors, Llanwarne Rectory, Here-

ford, or Glamorgan—Hon. Sec., Mr. W. J. Wiltshire, The Maindy School Cardiff. (3) The usual fee is 5s. per annum. (4) Apply to the secretary of the County Association you join, or the secretary of the B.B.K.A., 23, Bedford-street, Strand, W.C.2.

NOVICE (Cheam). *Drones Killed.*—(1) It means that the bees have no intention of swarming this year, and are therefore killing the drones off. (2) This depends on circumstances. If the brood combs contain a fair amount of stores, and honey is still coming in, leave them on a little longer. If no stores in brood combs, remove supers now. In any case do not leave them on later than the end of the month. (3) We do not know your district, so cannot say. Probably a little late clover and the ivy. The latter is the latest flower to secrete any amount of nectar. (4) End of September. (5) An ordinary carving knife will answer the purpose. (6) They may be put back to be refilled.

E. P. PERKINS (Aberystwyth). *Swarming Vagaries.*—The queen was probably only able to fly a short distance. You might have removed the queen the first time the bees swarmed, and cut out all the queen cells but one. It is too late in the season to divide them now. No fixed time can be given; it depends on the season, the district, and the experience of the bee-keeper.

F. C. CAFF (Truro). *Queen Cast Out.*—So far as we can see the queen is quite normal, but for some reason she may not have been able to fly far, and fell to the ground and was lost by the bees when a swarm issued, or the bees may have decided to supersede her. Her colour is quite normal. There will probably be a young queen in the hive.

J. B. (Derby).—(1) Native. (2) No. There should be a queen with each lot of driven bees.

J. GEARY (Barwell).—Any chemist should be able to supply it, or you can get it direct from Messrs. Allen & Hanbury, 37, Lombard-street, London.

E. W. JONES (Notts.).—Mr. Sladen is not now in England. His address is 44, Gwynne-street, Ottawa, Canada.

X. Y. Z. (Lancs.).—(1) No. Privet honey is not poisonous, but the flavour is not agreeable. (2) They will carry a few. (3) If the stock was strong it might swarm. (4) It is not necessary to put food in. (5) No. (6) It is not harmful, but it is not advisable. (7) They might do so. (8) It is not so likely to occur if wide top bars are used, and the space between the top bars of the lower super and the bottom bars of the top super is not more than ¼ or 5/16 of an inch.

Honey Samples.

K. KENDALL (Lincs.).—A very good sample of clover honey, worth at least 1s. 6d. per lb. jar, or £6 to £7 per cwt.

G. C. (Sussex).—The flavour is rather strong, but there is nothing wrong with it. The colour is due to the flowers from which it is gathered. We should say a fair proportion is from buckwheat.

W. X. A. (Normanton).—No. 1 is clover honey of good quality. See reply to K. Kendall. No. 2, clover with a little ragwort, which rather spoils the aroma and flavour; 1s. 4d. per lb. jar; about £5 per cwt.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column. 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

August 4th, at Wye, near Ashford, Kent.—Kent Honey Show. 13th Annual Exhibition. Classes to suit all bee-keepers. Splendid prizes. One 6 guinea and two 5 guinea Challenge Cups; also two champion silver cups. Schedule and entry form free on application to Mr. Alfred Lepper, secretary, Kent Honey Show, 8, Scotton-street, Wye, Kent.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

PRIVATE ADVERTISEMENTS.

FIRST CLASS EXPERT free for touring during August; cyclist; experienced.—School House, Boultham, Lincoln. i 1

A FEW 1917 Italian hybrid queens to spare; healthy and prolific; safe arrival guaranteed; 5s. each.—APIARY, Buckfast Abbey, Devon. i 2

WANTED, middle of August, two lots driven bees, 5 lbs. each, guaranteed 1917 queens, and absolutely healthy.—NESBIT, Wellington-street, Portobello, Midlothian. i 5

FINEST light English honey, 160s. per cwt., 56lb. tins, carriage paid, sample 3d.—SPRATT, Meadow Farm, Witheringsett, Stowmarket, Suffolk. i 6

WANTED.—Bees, hives, or appliances in exchange for pure bred rabbits.—L., c/o BEE JOURNAL Office, 23, Bedford-street, W.C.2. i 7

STOCK Italians, £3; two small stocks hybrids, disease resisting strain, 30s. each; all healthy.—WALKER, Portway, Street, Somerset. i 8

SURPLUS Stocks on 10 frames, White Star breed, 45s., carriage extra, box returnable.—ROYDS JONES, Buckland Newton, Dorset. i 9

FIVE frame nuclei, Simmins' strain, brood in four frames, 1917 laying queen, price 32s., carriage paid; boxes to be returned.—MAGSON, Kirkham, Lancashire. i 10

FOR SALE, surplus stocks English bees, £2; 6 frames, 24s.; 4 frames, 17s.—RICHARDSON, Lay Clerk, Ely. i 11

FIRST grade, fine quality sections, 24s. dozen, carriage paid.—NORTH, Cressing, Braintree, Essex. i 12

FINEST English honey, 120s. per cwt.; sample 3d.—DUTTON, Terling, Witham, Essex. i 13

WANTED quickly, up to 50lbs. good quality Beeswax; 1s. 10d. lb. offered delivered Hampshire; cash sent before delivery.—"PROMPT," BEE JOURNAL Office, 23, Bedford-street, Strand, W.C.2. i 14

TEN W.B.C. hives in good condition, £5 to clear.—LEECH, Nevin Lodge, Newland Park, Hull. i 15

BOYNE Valley Bee-keepers' Association offer their 1917 crop of prime section honey.—Tenders "free on rail, Drogheda" to the Secretary, W. IRWIN, Drogheda, Ireland. i 16

FOR SALE for £8, 7 hives of golden Italian bees in straw hives, worked out comb and hives included. The purchaser to collect from W. ROBSON, Harewood, Kingston Vale, Putney, S.W. i 18

THREE stocks, 2 on 8 frames each, 1 on six frames, healthy, 35s. and 30s. each, or £4 10s. the three; delivery after August 12.—COURTNEY PAGE, Earldoms, Enfield, Mx. i 19

HEALTHY stock of driven bees from bar frame hive and practically new skep, 7s. 6d.—GEORGE, Henbury, Bristol. i 20

A FEW strong secondhand Hives to sell at 12s. 6d. each; also Travelling Crates for honey.—Particulars of latter from "HIVES," c/o BEE JOURNAL, 23, Bedford-street, W.C. h

WANTED, honey extractor, Cowan preferred; must be moderate.—CAMERON, Ranmoor, near Forres, Scotland. i 21

WANTED, honey extractor, to take standard frames.—ROSLING, Summerlands, Paignton. i 22

SURPLUS nuclei, 4 and 6 frames, plenty stores and brood, queens raised from swarmed stocks, 6s. 6d. frame; nucleus exchanged for good honey ripeners.—BARNES, 20, Bourdon-road, Anerley. i 23

DUTCH BEES.—2 six frame stocks, £2 each and carriage; also six W.B.C. hanging sections racks, nearly new, 4s. each.—SEALE, Hardumont, Oatlands Drive, Weybridge, Surrey. i 24

HIVES OF FIRST-RATE QUALITY.—Advertiser wishes to thank his numerous customers for their voluntary expressions of entire satisfaction with the hives sent them, one gentleman in S. Wales remarking: "Workmanship and material all that can be desired." Have still a number of the "W.B.C." type left, also the undermentioned: 4 high-grade single-walled hives (nearly new), made of first quality ⅞in. yellow deal, with hand-made taper frames and 2 boxes shallow frames, 20s. each; 1 Simmins' "Conqueror" hive, of the very highest quality of wood and workmanship throughout, with 3 hanging chambers of s. frames and 1 deep brood chamber, made like cabinet work, 30s.; also splendid 4-frame Cowan reversible extractor, do any amount of work, 70s.; uncapping tank and 2 ripeners, 30s. the lot; beautiful trophy stand on polished wood base, with plate-glass shelves and 2 dozen tall show jars, 70s., packed free; full particulars of above on receipt of stamped envelope.—S. P. SOAL, Brook-road, Prittlewell. i 28

I PURCHASED (1914) three Simmins' "White Star" queens; since then have not seen "Isle of Wight" disease. All other bees in district have gone under. Can offer 4-frame nucleus. 21s. —A. A. L. SKINNER, Tomato Houses, Mickleover, Derby. i 4

ITALIAN Bees, strong, healthy, 1917 queen, from Italy this year, a few stocks only to dispose of, £5 a stock; crowded with brood and bees.—A. WIGGINS, 1, Swinderley-road, Wembley. h 53

SURPLUS Bees for sale, strong, healthy stocks on 10 frames, hybrids, 1917 queens, price 45s —RIVERS, Downs-road, near Southfleet, Kent. h 54

WANTED, few lots healthy driven Bees; price and particulars.—EDWIN GLOSSOP, Ambergate. h 60

WANTED, standard publications on bees; state name, condition, and price. Also, Chambers's Encyclopædia; giving the year of publication, etc.—HEATH, Willaston, near Chester. i 17

BEESWAX wanted.—State quantity, quality, and price to COLBECK, Carnforth, Lancs. h 65

BEES for sale.—A number of strong healthy stocks chiefly Italian, 50s. each. Vendor called up.—EDE, Wolsey-road, East Molesey. h 67

BEAUTIFUL Bee Hive free!—Wanted, gentleman's Residence, small, to hire, or cash purchase, between now and Christmas, 100 to 250 miles from London, not East Coast; shooting sport district liked. If suitable home found, new hive or 21s. given; letter stamps refunded to writers.—Islington Hall, King's Lynn. h 71

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

HEAD your colonies with my 1917 young vigorous three-banded Italian queens, bred for honey production and disease resisting.—HUDSON, The Apiary, Abbey-street, Worksop, Notts. h 73

QUEENS.—Carniolan Hybrids, 7s. 9d.; home raised Italians, 5s. 9d.; other queens from 3s. 9d.—PRYOR, Breachwood Green. i 3

DRIVEN BEES.—Few lots for disposal, 1s. 6d. per lb.; immediate delivery.—NEWELL, Reginald-street, Luton, Beds. i 25

1917 Pure Italian queens for sale, guaranteed healthy and fertile; prompt delivery weather permitting; stamp particulars.—CROWE, Stawell, Bridgwater. i 26

FINE large virgin queens from famous disease-resisting strain, 2s. 6d. each.—O. E. MINCHIN, Ivy Cottage, London-road, Greenhithe, Kent. i 27

"ISLE OF WIGHT" Disease permanently cured without loss of bees; solution, 1s. 6d. tin, post free.—PRESSEY, St. Elmo, Coulsdon, Surrey. a 9

CHOICE prolific English and Hybrid Queens, 5s.; 3-frame Nuclei, £1, including box.—HOLLINGSWORTH, Heanor. h 47

HARDY 1917 Italian queens, pure, fertile, reared by experienced breeder in France under climatic conditions resembling those in England. Buyers will receive queens direct from France. Very prolific, industrious, and good tempered. 5s. 3d. each.—ELLIOTT, "Westfield," Kelvin-road, Ipswich. h 24

BEES WAX, in any quantity, 1s. 9d. lb. given. —CHARLES FARRIS, 71, Bishopsgate, London, E.C. 2. a 8

HONEY, EXTRACTED. — Advertisers invite offers of heather and other kinds of home-gathered, in bulk. Last season's or this season's when ready. State probable quantity and lowest price for prompt cash.—"R. J.," BEE JOURNAL Office, 23, Bedford-street, Strand, W.C. 2. a 5

A FEW Surplus Nuclei, 3 frames, packed with brood, young fertile queens, Blacks or Italians, cash with order, 16s. 6d., carriage paid. Queens, fertile, vigorous strain, 5s.—CLARIDGE, Copford Apiary, Colchester h 72

HONEY required; extracted and sections.—Particulars to S. J. BALDWIN, Bromley Kent. a 6

COLONIAL HONEY.—LEONARD HALL & CO., 6, Rood-lane, London, E.C., Honey Importers and Packers for H.M. War Dept., the leading Stores, &c. a 2

MESSRS. STONE & SON, LTD., Chemists, Exeter, are buyers of English Beeswax, in large or small quantities. Write, stating quantity and price required. a 3

ITALIAN Queens, direct from Italy.—Address: E. PENNA, Bologna, Italy. One pure fertile Italian Queen, May, 5s.; June, July, August, September, 3s. 6d.; Queens sent post free: safe arrival guaranteed; cash with orders. Addresses to be written very clearly. Special offers are countermanded till further notice. I book in advance orders with cash for Queens to be delivered in August at ordinary prices. Cash should be sent by English postal order, made payable to E. Penna.

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

T. Card, 9, Grosvenor Road, Edmonton —E.A. : R.N.

REVIEWS.

First Lessons in Bee-Keeping, by C. P. Dadant (Hamilton, Ill., *American Bee Journal* Office, price 1 dollar).—The author, who is editor of the *American Bee Journal*, is well-known as the collaborator with his father, the late C. Dadant, in revising Langstroth's great work. The book before us is a treatise for beginners, and gives in the author's lucid manner the fundamentals of bee-keeping. Mr. Dadant says:—"This book is especially intended for colleges and schools giving short courses in bee culture. Blind bee-keeping is still less profitable than blind farming. The hive has long been a sealed book. It should be opened to the prospective apiarist before he attempts to keep bees. The bee owner who depends on luck is an obstruction to the success of others, for disease and degenerescence of his bees are sure to follow from his lack of knowledge and method."

The work begins with a short natural history of the honey bee, and takes every subject in order, including the packing and marketing of honey, as well as a chapter on Honey as Food. The volume consists of 167 pages, and is beautifully illustrated by 178 engravings, which add greatly to its value, especially for beginners. As the author has had a long career as a successful honey producer on a large scale, the information given is thoroughly reliable, and we have much pleasure in recommending the book to bee-keepers wishing to make themselves acquainted with American methods.

Forty-two Years of Bee-Keeping in New Zealand, 1874-1916: Some Reminiscences, by I. Hopkins.—This is a reprint from articles which have appeared in the *New Zealand Farmer*, and are some of the reminiscences of the author during his forty years' career as a bee-keeper. In his preface he says:—"In order that the oldest of my bee-keeping friends may have a copy of these jottings in handy form, I have had a limited number reprinted for private circulation only." Mr. Hopkins has taken a leading part in all movements connected with the industry, and is well qualified to write a history of the progress of modern commercial bee-keeping in New Zealand, which he has done at the suggestion of old friends. He commences with the importation of the honey bee (*Apis mellifica*) into the country in 1838, the two native bees being of no use as honey bees. After alluding to primitive bee-keeping, he describes the gradual progress up to the present development, so that the younger generation may better appreciate the favourable conditions under which they work now, as compared with the difficulties the pioneers of the industry had to contend against. With regard to the present condition and future prospects of commercial bee-keeping in New Zealand Mr. Hopkins makes a big claim when he says that they "lead the world in bee-keeping." To justify this claim he points to the fact that no other country has such an effective Apiaries Act for controlling diseases, or such compulsory regulations for Government grading of all honey leaving the country, annual registration of apiaries, and supervision of all imported bees, besides permanent Inspectors of Apiaries, who are constantly travelling from apiary to apiary. He says:—"As to the future there cannot be a doubt. The strides that the industry is now making, with an assured oversea market for our surplus honey, warrant our younger bee-keepers launching out in all good faith in the future development of a prosperous industry." We have for some years followed the gradual development of the industry in New Zealand, and have been pleased to read the author's reminiscences, and thank him for favouring us with a copy.

A DORSET YARN.

Bees were working the lavender flowers largely during the past week. If one could get all the honey they obtain from them in one section, the taste would be very sweet, I surmise; but it is mixed with honey from other flowers in the cells. Mr. George Hayes, of Nottingham, would be able to tell us)what percentage of lavender is in *it*.

Lavender is easy to grow, if slipped at the right time, i.e., in October or November, either single stems or large tufts. Split off the old plants, and make firm with the heel of boot. Plant about 7 or 8 ins. deep, not too much left above ground, as when the winds of March come they are apt to dry up and wither.

Some years there is a great demand for flowers, and the payment is good. In three years the cuttings would be remunerative. There are several varieties of this delightful plant. I have seen fields of it at a lavender farm, colour all shades of mauve to nearly white, but some are much more floriferous than others. The deep mauve-coloured one from France always seems the best to me. It belongs to the Lobiate family, all of which are sought by bees, not only the honey bee. This plant is a great attraction to the humming bird hawk moth; when a boy in a gentleman's garden, I could always be sure to catch them in the lavender walk. They have a way of inserting their long, spiral tongues into the flowers while hovering in front of them, which makes the humming noise so peculiar to this moth.

The rambler roses are still a greater attraction to the bees; but the greater number of them fly away to the charlock and clover; the privet is still looked over, and as a reserve the blackberries.

Just now in driving 10 miles to Bournemouth the cornfields are a wonderful sight to the Nature lover, for among the corn are the yellow marguerites, corn cockles, and the white may weeds, with large patches of scarlet poppies. In the hedgerows are rag weeds and wild vetches. All Nature seems to be at its best, one can but wonder

"And think that earth should be so fair,
So beautiful and bright a thing,
That Nature should come forth and wear
Such glorious apparelling,
That sky, sea, and air, should live and know
How much the God of Love can bless,
How deep their debt of thankfulness."

This village is on the borders of Bagshot sands and chalk. On the one side are dairy farms, on the other wild moors, covered just now with heather—not the species the bees like, but *Erica Cinerea* and *Erica Tetralix*, which cover the hills and roadsides from parts of the New Forest down to Wareham. Just now it is very beautiful; visitors to the Violet Farm are all loud in praise of its intrinsic beauty; but the practical farmer has to tell them: "We know it is beautiful—the pretty heather and the glorious sunsets; but we cannot live on the scenery; we must till the soil for production of food for man and beast." It is not only ploughing and sowing but the use of the cultivator and hoe that aerates the soil between the growing crops, that helps the plants to gather up all the plant food in the soil; this is what gives plenty of food for bees.

On Monday morning before six I was cutting marrows to send off to market. The lines are 300 yards long, and of the bush variety (not the long trailing ones). The seed was dibbled in by boys; the rows 2 ft. apart. Now, after keeping the soil well loosened up on the top, every plant has flowers and fruit. The bees were working the flowers (every part of them was yellow; but for the hum you might have taken them for wasps), going from flower to flower, carrying the yellow pollen of the male to the seed flowers, so that the seed in the ovaries shall all be fertile. These short-jointed bush marrows are very productive, and there are very few seed flowers but what develop their fruit. Bees work them so systematically, as the flowers are so close together. It is the same with the French beans, bees work the flowers early and late. Even in unfavourable weather they work these beans, as they are close to their hives—another advantage of combining bees and fruit on one farm.

With French beans I do not wish to be misunderstood. Most of the legume family are self-fertile; even if bees did not visit the blossoms the seed would develop, as the sexual organs seem to be wrapped up close to each other inside the flower. Many readers of the BRITISH BEE JOURNAL will have found that out in crossing sweet peas. But with the gourd family, to which the marrows belong, it is absolutely essential for the production of seed that the pollen should be taken to the seed flowers; if not by bees, it must be done by man, for the sure production of seed to carry on the race. It is the same with cucumbers grown in the open ground, where they can be visited by bees; the fruits are full of seed.

When grown under glass, in a close, moist atmosphere, where bees are excluded, the fruit develops, but has no seed. For sale as an edible unit it is a better shape and more tender to eat. Were the flowers fertilised, the fruits would lose their long, graceful symmetry, and wherever the perfect seeds were they would swell out in a very bulgy manner. They would be coarse to eat and difficult to masticate, and would be bad for the digestive organs; their value as food is very poor.

Going back to marrows (like most gassy, windbag Socialists I wander from the point), the bush marrow for profit is a

long way in front of the trailer. Two lines of bush marrow produced 185 at one cutting. One line of trailers under the same conditions, and the same length, viz., 300 yards—only five!

I can only make one deduction, that is, the bush ones had their flowers so close together that the bees visited them more. If one only had leisure to jot down each day what one comes across which is of value to the bee community and send it to the BRITISH BEE JOURNAL for the Editors to publish, as they must know what would interest the readers! There seems so much individualism: the real, clever people want so much pay for their writings; the best beemen keep their knowledge to themselves. I believe in the old Book that teaches: "Tell it out among the nations that the Lord is King, and He shall reign for ever and ever."

I had lent me a year or two ago a book called "The Harvester," in which medicinal herb growing was mixed up with romance, prices of dried herbs served up with love and marriage. If only the clever writers were to do the same with bees, the industry would extend by leaps and bounds.

The cold week has made a change in the hives. The drones have had a bad time at the Violet Farm; each morning they are to be seen cast out on the front board in large numbers. It shows that the season for swarming will be over for this year. Yet on Friday afternoon the noise of the drones sounded like queen-mating. Some of them must be re-queening; it was mostly in this year's new swarms. Nothing is to be left to chance: a young prolific queen must be ready to be next year's mother of the race.

I must apologise for mistakes in punctuation. It makes the sense of the yarn of little value, as Poole is close here in Dorset and Sunningdale is in Berkshire. There should have been a full stop after "Poole backwater" in last week's yarn. —J. J. KETTLE.

KENT BEEKEEPERS' ASSOCIATION (WESTERN DIVISION).

LECTURE AND DEMONSTRATION AT ELTHAM.

A meeting of the local branch of the above Association took place on Saturday last at the apiary of Mr. Prior, the district secretary, Culham, Main Road, New Eltham.

The meeting was well attended, and Mr. Dewey, the Chairman of the Association, presided.

A lecture on the preparation of the hive was delivered by Mr. Prior, the lecturer demonstrating his points with the aid of a hive and the various appliances to which he referred. In answer to questions on details of doubt or difficulty, Mr. Prior gave unreservedly of his best, willingly imparting the knowledge gained from his own experience. Obstacles to success were dealt with, and the possibility of failure thus diminished for the less experienced.

A visit to the apiary was included, and the practical value of the lecture emphasised by an explanation of the lecturer's system of record keeping. He was thus able to show step by step the history of a stock from which during the season he had removed in all 10 frames of brood for nuclei, and also obtained a crop of 100 lbs. of honey. He was, however, careful to emphasise the fact that such results could only be obtained by a proper understanding of the bees and a conscientious attention to their needs at the correct times. The meeting terminated with a hearty vote of thanks to the lecturer.—GEO. W. JUDGE, "Barrowdene," Shepherds Lane, Dartford.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

LATE-FLOWERING LIME TREES.

[9485] Some years ago you were good enough to insert a letter from me (3,759, *B.B.J.*, September 14, 1899, p. 361), advocating the planting of the late-flowering lime tree (*Tilia petiolaris*). In the autumn of that year I planted six of these trees, which have thriven marvellously. They have already a girth of 24 inches at one foot from the ground, and are 25 feet high. They are now, at the beginning of August, bursting into bloom, and my bees are obtaining quantities of excellent honey from the fragrant blossoms

Anyone who has influence with local authorities or others, who are planting

trees, should make a point of recommending the planting of this useful and ornamental tree.

The wood is very similar to the bass wood of which our sections are made, and is used for many purposes in the Caucasus, the original home of the tree.—WALTER F. REID, *Fieldside, Addlestone, Surrey.*

RECORD HONEY GATHERING.

[9486] Re "Record Honey Gathering" [9473], BRITISH BEE JOURNAL, page 226, I think it is more of honey shifting than gathering. I had found several times that when the brood nest is filled with honey, and the queen has no empty cells to lay, that the bees carry the honey up to the super to make room for the queen (this is especially the case when not supering in advance). Once, when supering, I remember two combs in the brood nest filled, and sealed, to the bottom bar, and when I went for them to extract two days later the honey was all cleared out, and hundreds of eggs laid in them. This is especially likely to occur when they want room for drone brood. How often do we find, in supering with worker and drone comb mixed, that the worker cells are filled and sealed, and not a drop placed in the drone cells, as the bees keep these empty expecting to have drones reared in them? Of course, I do not disbelieve Mr. Hancox as to the filling and sealing of the cap; but, as he points out that the weather for these five days was bad for honey gathering, dull and wet, with a cold north-east wind, therefore everything points to the probability of the honey having been carried up from the brood combs.—JNO. BERRY.

GEORGE STEPHENSON AND HIS BEES.

[9487] The great railroad engineer when living in retirement at Clay Cross, Derbyshire, interested himself in many things, including horticulture and apiculture. As is well known, he had, in the person of the famous Sir Joseph Paxton, a close friend and rival. Both were experimenting at the same time with cucumbers—getting them to grow straight. Stephenson succeeded in accomplishing this by inventing the glass cylinder; and it is on record that he carried the first straight cucumber to his house—and with equal pleasure as when his engine, "The Rocket," won the first prize—exclaiming, "I've bothered 'em noo!"

As a bee-keeper he experienced nothing but failure, although most persistent in his efforts. His explanation for want of success was that his garden was situated at too great an altitude for the bees to work successfully, and he arrived at this conclusion by observing large numbers of them crawling about among the grass in front of the hives. To him it appeared evident they had exhausted themselves before they could reach the hives. In the light of the knowledge we have to-day we can only believe that Stephenson was wrong in his conclusions, for we, who are so familiar with the "crawling" business, can form a fairly accurate opinion of the probable cause of his failure. It would seem that the "Isle of Wight" disease was a scourge in those far-off days, but not being understood, no one was able to give it a name—scientific or otherwise. — GEO. HANDLEY.

JULY SWARMS AND HONEY GATHERING.

[9488] In two recent issues of the BRITISH BEE JOURNAL two interesting items occur, one in the "Dorset Yarn," July 19—"I look on July swarms as a calamity to the bee-owner." The other appears under the heading of, "A Record in Honey Gathering," July 26.

The first contention is by no means applicable to this district, as the following statement will show. On July 8 two swarms and a cast came out in the following order, the cast first, which my wife skepped—then the two swarms came out almost simultaneously and of their own free will joined the cast in the skep. When I got home in the evening we at once proceeded to make provision for housing the little crowd, as follows:—Brood chamber, ten frames with foundation, eight shallow frames with drone base foundation above the queen excluder, and two racks of shallow frame combs.

While running the bees in we watched for and caught the three queens, eventually releasing the best one. Matters went along fine, and on July 22 we took off the two top racks, both of which were fully sealed, and also found that the remaining rack of shallow combs had been built out and nearly filled with honey, but not sealed; in addition to the brood combs being fully built out. Thus in fourteen days 56 lbs. of honey were gathered and sealed, and about 24 lbs. stored in the super below, to say nothing of the brood chamber supply, and the amount consumed to produce wax for comb building, which would bring the total amount gathered in fourteen days to little short of 1 cwt. This supports our Editors' statement in reply to "A Novice."—E. JACQUES, Lichfield.

BEES AND FRUIT.

[9489] We notice in the BEE JOURNAL, July 26, p. 232, *re* no apples on Orange Pippin, that some lay the blame for this on there being no bees, and frosts. In our case it is the fault of neither, as we have six strong hives of bees under the trees, and we have three standards (fourteen years old) and two bush, and we have five on the "lot." It has been the same other years, and we had ideal weather for the setting of fruit this year.—J. KIRBY ROE, Wigston, Leicester.

[We have in preparation a series of articles by Mr. C. H. Hooper on the question of the "Pollination of Fruit Trees." The first article will appear shortly, and probably our correspondent may find in one of them the solution of his difficulty. —ED.]

SWARM SETTLES ON A BOY.

[9490] I read many years ago of a swarm of bees settling on a man's head, and could scarcely believe the story. Here is a case more remarkable still, for the bees selected a boy on a cycle! My son writes me as follows:—"Yesterday (July 29) a young boy was cycling along a road in Southampton when suddenly a swarm of bees appeared from 'nowhere,' and, thinking him a convenient object on which to settle, alighted upon him. Behold the boy scooping and flicking bees off his neck, head, and shoulders in a frantic effort to escape suffocation! He was stung very badly, and was taken into a chemist's shop, where he was stripped and rubbed all over with some kind of ointment. Several people who attempted to help the boy were also stung."—A. C. WILLIAMS.

DEALING WITH FOUL BROOD.

[9491] For the benefit of the readers of the B.B.J., I should like to give my experience with two cases of Foul Brood.

In the spring, 1916, I had a stock which developed Foul Brood; this I treated with the usual recommended remedies, but with no good results. I examined them a fortnight after this treatment, and found no improvement. I then took out all combs containing brood, destroyed them, and substituted new frames and full sheets of foundation.

In a fortnight I examined them again, and found the new combs drawn out, and containing eggs and brood in various stages; a quantity of this was affected with Foul Brood. The season was by now getting on, and the main honey flow nearly over.

As a last resource, I obtained a clean skep, removed the old stock to one side, and set the skep on its stand, laying a swarm-board down in front. Then, taking out the frames of comb from the old stock one by one, I shook the bees off on to the board, and let them run into the skep as a swarm. I then destroyed all the combs. At the end of August I examined them, and found the skep half full of new comb, and, judging by the weight, containing sufficient honey to carry them through the winter.

This spring, 1917, the stock came out strong, and gave me a good swarm, which is now working in the supers. I also had to super the skep to prevent it swarming again. After considerable expense and trouble I at last brought the stock to profit.

This spring, 1917, I also had another stock in a frame hive which showed unmistakable signs of Foul Brood. In this case I placed one tablespoonful of Bacterol in an empty ½-pint Bacterol bottle, and filled it up with soft warm water, then took the combs out one at a time, shook the bees off into the hive, and, laying them flat, I sprayed each one well with the above mixture, forcing it direct into the cells, taking no notice whatever as to whether they contained eggs, brood, or honey. A fortnight after this treatment I examined them, and found no signs whatever of disease. The cells that were affected had been cleaned out, and they now contained eggs and larvæ.

The stock very soon built up strong, and they are now giving me surplus. This is the best remedy for Foul Brood that I have struck so far. W. ION.

Eastfield Apiary, Healing, Lincs.

WEATHER REPORT.

WESTBOURNE, SUSSEX.

JULY, 1917.

Rainfall, 2.22in.	Minimum on grass, 38, on 23rd.
Below average, .10in.	Frosty nights, 0.
Heaviest fall, .50, on 30th.	Mean maximum, 69.0.
Rain fell on 12 days.	Mean minimum, 53.3.
Sunshine, 206.5 hrs.	Mean temperature, 61.1.
Below average, 22.1 hrs.	Above average, .7.
Brightest day, 2nd, 13 hrs.	Maximum barometer, 30.310, on 5th.
Sunless days, 3.	Minimum barometer, 29.779 on 14th.
Maximum temperature, 78, on 14th.	
Minimum temperature, 45, on 23rd.	

L. B. BIRKETT.

PRESS CUTTINGS.

BIRDS AND BEES.

DO FLYCATCHERS FEED ON THEM?

Mr. W. B. Havelock, of The Nurseries, Brocklesby Park, Lincolnshire, writes as follows to the Press:—"During the past few days I have noticed a pair of flycatchers darting down at intervals to the mouth of one of our beehives, and apparently catching a bee each time.

"Can any of your readers tell me whether the flycatcher is guilty of such a thing? As sugar is so dear and difficult to obtain, it is rather important for beekeepers to secure all the honey possible, and if the flycatcher attacks bees, it is evident that a single pair of these birds would destroy some hundreds of bees in the course of a single week."

[The above letter appeared in several papers.—EDS.]

"FLYCATCHERS" AND BEES.

Sir,—Your correspondent, W. B. Havelock, raises an interesting question, and the experiences of competent observers would be worth knowing. The flycatcher is one of our most welcome spring visitants, returning with unfailing regularity every May to its old breeding haunts. It is very sensitive, and will readily forsake the first nest it builds, if disturbed. The eggs are laid any time after the first week in June, not, I think, usually before; and it is quite common to find them in July. A pair, whose first nest had been invaded by marauding sparrows which had pecked the eggs, built on the top of the keystone over my daughter's bedroom window. They have made their second home on the keystone of the drawing-room window, immediately under my bedroom window, and are now busy feeding their young, which were hatched on July 4. I have watched them for hours in the evening, also in the morning and at midday, but have never observed them attack a bee, although there are plenty roaming about the garden. White butterflies and red admirals they take occasionally, the latter for preference. I watched the cock make nine successive swoops at a red admiral before he effected its capture; he then methodically removed its wings, legs, antennæ, etc., and after reducing the body to the necessary pulpy softness flew up with it to the nest.

Although it is quite possible that caprice, or sheer delight at capturing anything in the shape of winged insects might, occasionally, lead them to dart at a bee, I think in the case your correspondent mentions it was much more likely that the attack was made upon a "desirable" fly which had been attracted to the hive by the scent of honey or other reason. The structure of a honey-bee, with its scaly body, its numerous hairy filaments, poison bag, etc., appears to be ill-adapted as suitable food for the young of the flycatcher, and would require too much "dishing up" to make its capture worth the parent bird's while.—Yours, etc., T. C. JEFFREY.

(From the *Yorkshire Post*).

"FLYCATCHERS" AND BEES.

Sir,—No doubt, birds take bees from hives, and it is only another case of "easy opportunity." Two cases which occurred here may interest your correspondents, and I can vouch for the absolute accuracy of observation, etc.

The first was a blackbird, which haunted a hive to such an extent that I was compelled to shoot it. Perhaps it will be as well to prove the case by saying that the bird was well known in the garden, because it had a white flight feather in each wing. The hive was placed between two greenhouses, and consequently could be easily watched. The observation covered a sufficient period to be conclusive that the habit was definitely acquired, and would ultimately result in the entire destruction of the bees. Lest the question of absolute destruction should be considered open to doubt, I had better proceed with case No. 2 to prove the use of the words.

The common robin was the culprit in the second case, and an entire colony of bees was cleared out. Some bees had made their home at the back of some massive stone terrace steps opposite my dining-room windows, and used to enter their abode through a nick between the steps.

There are two bird feeding huts at the foot, and on either side of these terrace steps, from which the birds used to swoop down upon the bees as they entered their home; never as they emerged. What actually happened when the bee was caught could not be seen, but some "trimming" process took place necessitating three distinct operations, which included the final grip before flight to the nest. It was at breeding time, and the frequency of the visits would suggest almost a complete bee diet.

As the honey was quite "ungetatable," and the bees were a nuisance in the house, the robins were allowed to destroy the colony. I have also known "blue tits" to take bees at the hive, but never had the opportunity of conclusive observation to decide whether a deliberate business of killing had become a habit.

Perhaps some beekeepers of lengthy experience will be good enough to jot

down a few of the cases which have come under their notice.—Yours, etc.,

GEO. C. WARD.

—From the *Yorkshire Post*.

FLYCATCHERS AND BEES.

A correspondent calls our attention to the following note on this subject :—

Note on the habits of the spotted flycatcher (Muscicapa Grisola), by Mr. A. B. Herbert. Read to the Edinburgh Naturalists' Field Club on October 20, 1881.

My principal object in writing these remarks on the flycatcher is to contradict in the most emphatic manner an editorial note to a popular edition of White's "Selborne," where this very useful bird is most unjustly libelled as a destroyer of bees; and I much fear the erroneous impression conveyed by this note has been the death of many a poor, innocent flycatcher. I had frequently observed the birds follow a bee, seize it, and then settle on the gravel walk and beat it to death; but I felt sure the bird with its short beak dare not do this to a worker bee on account of its sting, and that it must be feeding on the stingless drones—and I determined to ascertain this fact beyond the possibility of doubt. So the next time I saw the bird thus occupied, immediately it settled on the walk I threw a clod of earth, and made it relinquish its work. This I did at various times, and always with the same result, viz., that, as I expected, the insect was invariably a drone, and not a worker bee. Now, the time when the flycatchers require these fat drones for their young is after the swarming season is over, and then the workers themselves are turning out and destroying the drones, which are no longer necessary in the economy of the hive; and, therefore, the birds are assisting the workers instead of destroying them, and are consequently friends, and not enemies, to the beekeeper. I need scarcely mention that now, October 20, there are no drones in our beehives.—From the *Yorkshire Post*.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

September 5th and 6th, 1917, at St. Andrew's Halls, Glasgow.—Glasgow and West of Scotland Horticultural Society.—For bee schedule apply to Hugh M. Mackie, C.A., 124, St. Vincent-street, Glasgow, Secretary.

Notices to Correspondents

AMATEUR (Lincs.).—*Keeping Nuclei through the Winter.*—An experienced bee-keeper could probably keep nuclei through the winter on five or six combs; but what would answer in the hands of such a bee-keeper would most likely be a failure if undertaken by an amateur. The combs must be crowded with young bees, and should also contain ample stores when packed for winter. A 1 or 2-lb. cake of candy should also be given, all wrapped down warmly, and kept dry. The candy must be renewed as the bees consume it. If both the old queen and queen cells were put in a nucleus, the cells would almost certainly be destroyed. A three-comb nucleus purchased now might, by judicious feeding, be worked up to five combs, or more, and strong enough to winter safely. We should have preferred to divide the stock into two only, leaving the old queen on the original stand with a couple of combs, one of brood and one of food, and seven or eight frames fitted with foundation, moving the old stock to a new location. A nucleus might have also been made for the purpose of rearing a young queen to replace the old one. When the nucleus had served its purpose it could have been united to one of the colonies.

A. Y. ABERSHADY (Ealing).—*Commencing Bee-keeping.*—We are sorry we have not the space in our paper to give you general and practical directions how to start bee-keeping. Get "Bee-keeping Simplified," 6d., post free 7d., or "The British Bee-keepers' Guide Book," 1s. 6d., post free 1s. 8½d., from this office. If you find any difficulty write us again, if possible stating just what you want to know, or if you are near our office any time call in, and we shall be pleased to give you any information we can.

INQUIRER (Co. Clare).—*Uniting Bees in Skep to Those in Frame Hive.*—Drive the bees from the skep, and hive them on combs for a few days, standing them by the side of the stock to which you wish to unite them. Then unite in the usual way, by flouring both lots, taking away the queen not wanted and caging the other for 12 hours. (2) We cannot say defintely; at least a couple of miles, probably more.

(3) *Honey Changing the Colour of Milk in Tea.* We can give no reason for this.

(4) *Travelling and Introducing Cages.*—Most of the travelling cages may also be used for introducing the queen. One side of the cage is covered with wire cloth, or perforated zinc. The cage is placed with this side down, resting on and parallel with two combs, so that the queen and bees in the cage become acquainted with and acquire the same smell as the bees in the hive. At one end of the cage is a partition filled with candy for the sustenance of the queen and bees with her. This is protected from the bees in the hive for 24 to 36 hours, and at the end of that time it is exposed to them. They clear the candy out, and thus liberate the queen. (5) It is not worth doing. First drive the bees until the old queen is secured; return the bees, and introduce the queen through the feed hole in the top of the skep by means of a cage, as described above for a frame hive.

VERACITY (Co. Wexford).—*Bee Gloves; Rubber v. Leather.*—Those in most general use are the "Burkitt" bee glove made of soft white leather, they are quite satisfactory for all practical purposes. (2) No. (3) There is always a risk of importing disease when buying bees or queens.

Honey Sample.

W. T. J. (Wrexham).—Clover honey; A1 quality; at least 1s. 6d. per 1-lb. jar, or 120s. per cwt.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

PRIVATE ADVERTISEMENTS.

FINEST Yorkshire honey from country apiary, 168s. per cwt. Sample 3d.—PARSONS, 52, Witham, Hull. i. 29

WANTED, few healthy driven Bees for cash. State price, COLVILLE, Chatton, Belford. i. 30

FINEST 1917 light-coloured Lincolnshire honey, from white clover, mustard, &c.; superb quality and flavour. 28lb. tins, 42s.; 14lb. tins, 22s.; carriage paid. Tins included. Sample 3d.—CHARLES CUBLEY, Gedney, Holbeach, Lincolnshire. i. 31

FOR SALE 2 strong stocks of bees on 10 frames. Healthy. 32s. 6d. each on rail, no hives; travelling box returnable. Cash or deposit. HILLS, The Apiary, Alton, Hants. i. 32

WANTED some really good mead. Please send particulars and price to Colonel Sir William Serjeant, St. Benet's Abbey, nr. Bodmin, Cornwall. i. 33

THE bees to restart with after "I.O.W." disease. A few good stocks (English and Dutch) on 8 combs, 1917 queens; 50s., carr. paid; boxes returnable. These bees lived through when district was devastated by above disease (see B.B.J., Feb. 15, page 50). Also for sale 10 yards strong net, 63 ins. wide, been used once for demonstrating tent, 15s.—W. ROBERTS, Ninfield, Battle. i. 34

FOUR and five-frame nuclei, with young laying queens offered.—VINCENT, 132, Croydon-road, Anerley, S.E. i. 35

HEAVY stock Italian-English hybrids, double swarm early July, 10 frames packed with bees; plenty of brood and honey, 25s.; also 6-frame nucleus, 20s. (healthy).—NEWELL, Reginald-street, Luton. i. 42

HYBRID ITALIANS.—Two good ten-framed colonies, 60s. each; five strong four-framed nuclei, 25s. each, on rail; travelling boxes must be returned; disease unknown in apiary.—Address, "CHISWICK," c/o BEE JOURNAL Office, 23, Bedford-street, W.C.2.

A FEW 1917 Italian hybrid queens to spare; healthy and prolific; safe arrival guaranteed; 5s. each.—APIARY, Buckfast Abbey, Devon. i 2

WANTED, middle of August, two lots driven bees, 5 lbs. each, guaranteed 1917 queens, and absolutely healthy.—NESBIT, Wellington-street, Portobello, Midlothian. i 5

SURPLUS Stocks on 10 frames, White Star breed, 45s., carriage extra, box returnable.—ROYDS JONES, Buckland Newton, Dorset. i 9

FOR SALE, surplus stocks English bees, £2; 6 frames, 24s.; 4 frames, 17s.—RICHARDSON, Lay Clerk, Ely. i 11

FIRST grade, fine quality sections, 24s. dozen, carriage paid.—NORTH, Cressing, Braintree, Essex. i 12

BOYNE Valley Bee-keepers' Association offer their 1917 crop of prime section honey.—Tenders "free on rail, Drogheda" to the Secretary, W. IRWIN, Drogheda, Ireland. i 16

WANTED, honey extractor, Cowan preferred; must be moderate.—CAMERON, Ranmoor, near Forres, Scotland. i 21

SURPLUS Bees for sale, strong, healthy stocks on 10 frames, hybrids, 1917 queens, price 45s.—RIVERS, Downs-road, near Southfleet, Kent. h 54

ITALIAN Bees, strong, healthy, 1917 queen, from Italy this year, a few stocks only to dispose of, £5 a stock; crowded with brood and bees.—A. WIGGINS, 1, Swinderley-road, Wembley. h 53

I PURCHASED (1914) three Simmins' "White Star" queens; since then have not seen "Isle of Wight" disease. All other bees in district have gone under. Can offer 4-frame nucleus, 21s.—A. A. L. SKINNER, Tomato Houses, Mickleover, Derby. i 4

BEES for sale.—A number of strong healthy stocks, chiefly Italian, 50s. each. Vendor called up.—EDE, Wolsey-road, East Molesey. h 67

BEAUTIFUL Bee Hive free!—Wanted, gentleman's Residence, small, to hire, or cash purchase, between now and Christmas, 100 to 250 miles from London, not East Coast; shooting sport district liked. If suitable home found, new hive or 21s. given; letter stamps refunded to writers.—Islington Hall, King's Lynn. h 71

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

ITALIAN BEES.—Pure, healthy, 10-frame stocks, 1917 queens, stocked with bees, brood, and honey; just right for heather; £5 per stock.—DUTTON, Little Packington, Meriden. i 36

FOR SALE, in September, eighteen lots of Driven Bees.—E. WHITE, Redhill Apiary, Holybourne, Alton, Hants. i 37

1917 IMPORTED Golden Italian Fertile Queens, 5s.; specially selected, 8s.; regular supplies until end of season.—GOODARE, New Cross, Wednesfield. i 38

STRONG healthy Driven Bees, with young queen, 6s. 6d. per lot; boxes returnable; spare Queens, 1917, 1s. 6d. each.—A. R. MORETON, Bee Expert, Hallow, Worcester. 20th season. i 39

NUCLEI, Dutch and Golden cross, 4-frame and brood, 24s.; 6-frame, 33s.; 6-frame Dutch, 32s.—W. GREEN, Laindon, Essex. i 40

1917 PURE Italian Queens, guaranteed healthy, fertile, excellent honey gatherers; prompt dispatch, weather permitting; for particulars, stamp.—CROWE, Stawell, Bridgwater. i 41

BEES WAX, in any quantity, 1s. 9d. lb. given.—CHARLES FARRIS, 71, Bishopsgate, London, E.C. 2. a 8

HONEY required; extracted and sections.—Particulars to S. J. BALDWIN, Bromley Kent. a 6

QUEENS.—Carniolan Hybrids, 7s. 9d.; home raised Italians, 5s. 9d.; other queens from 3s. 9d.—PRYOR, Breachwood Green. i 3

FINE large virgin queens from famous disease-resisting strain, 2s. 6d. each.—O. E. MINCHIN, Ivy Cottage, London-road, Greenhithe, Kent. i 27

"ISLE OF WIGHT" Disease permanently cured without loss of bees; solution, 1s. 6d. tin, post free.—PRESSEY, St. Elmo, Coulsdon, Surrey. a 9

REVIEW.

Sacbrood, by G. F. White (Department Bulletin No. 431, Bureau of Entomology, United States Department of Agriculture, Washington, D.C.).—The author of this bulletin is the expert engaged in the investigation of bee diseases. Although the name is a new one, the disease is not new, as Dr. White says it has probably affected bees longer than history records the keeping of bees by man. The disease is known here as "black brood," and has gone under different other names, but very little was known about it before 1912, when the author undertook its investigation, and after discovering its cause, and determining its true nature, he used the name of "sacbrood" to designate it, the name being coined to suggest the sacklike appearance of the dead larvæ in this disease at the time they are most frequently seen by the bee-keeper. The disease, Dr. White says, is more benign than malignant, being insidious in its nature and somewhat transient in its character. The number of colonies that die as a direct result of sacbrood is comparatively small; the loss of individual bees from it, however, in the aggregate, is enormous. This tends naturally to weaken the colony in which the disease is present—a fact of great economic importance. Dr. White began the study of such dead brood as far back as 1902. After examining samples labelled "pickled brood"—the term frequently used in America to designate this disease as differing from foul brood—he found them to be free from micro-organisms. Dr. Burri, in Switzerland in 1906, had also diagnosed such brood as "dead brood free from bacteria," which was confirmed by Dr. Kürsteiner in 1910. In 1913 a circular was issued by the U.S. Department of Agriculture, as a preliminary paper by Dr. White, which we reviewed on page 91 of *B.B.J.* for 1913.

The present bulletin is an amplification of this circular and goes very fully into details, with numerous illustrations of healthy and diseased larvæ which enable one to easily recognise the disease. It is only a disease of the brood, and adult bees are not susceptible to it. A colony badly affected becomes weakened, and the brood dies generally after the time of capping, and usually before the pupal stage is reached. Occasionally the capping has a hole through it, which suggests by its position that the cap had not been completed. Sometimes there are two or more holes punctured by the bees. A larva recently dead of sacbrood is slightly yellow, which in a few days changes to brown, and, as decay takes place, gradually becomes almost black. The contents of the sacklike larva are watery, and granular in appearance. The larva later dries up to a scale, which does not adhere to the cell wall, and there is no odour perceptible. The appearance of the larva varies from day to day, clearly seen in some of the illustrations showing the different stages of the disease. Although there is an absence of micro-organisms, a filtrable virus exists, the infectiousness of which is variable in different stages of decay of the larva. The quantity of virus contained in a single larva recently dead of the disease is sufficient to produce quite a large amount of sacbrood in a colony. The period of incubation is about six days, and the disease can be produced at any season of the year when brood is reared, although it is more often encountered during the first half of the brood-rearing season. It is satisfactory to find that colonies possess a strong tendency to recover from the disease without treatment. This corresponds with our experience in this country with black brood. The destruction of the virus by various treatments is fully described, and Dr. White concludes by stating that neither carbolic acid nor quinine should be relied upon in the treatment of sacbrood. Towards disinfecting agents it is shown that the virus of sacbrood possesses, in some instances, at least, marked resistance. These and other experimental results thus far obtained indicate that the use of any drug in the treatment of the disease should not be depended upon until such drug has been proved to be of value. The author says that "no fear need be entertained in practical apiculture that the disease will be transmitted by the hands or clothing of the operator, by the tools used about the apiary, through the medium of the wind, or by the queen."

The author has rendered a service to bee-keepers by his investigations of this disease and by throwing fresh light upon it. Those of our readers who wish to make themselves more fully acquainted with it could procure the bulletin, which consists of 55 pages, 4 plates, and 33 figures, by sending 10 cents to the Superintendent of Documents, Government Printing Office, Washington, D.C., U.S. America.

A DORSET YARN.

Another member of the Crucifer family, the radish, has been well foraged over by the bees at the Violet Farm. These were sown early in March; the best were harvested when young and tender; a few were left growing between the long lines of fruit trees; just now they are 4 ft. high, covered with flowers and seed pods. It is very beautiful to see, a source of food for the bees, and a store of seed for sowing next year—another instance of a double harvest for the tiller of the soil. The old Book tells us, "All things work together for good with them that love God."

Most of the stocks have filled up their number of sections; even those that did not look like finishing them. I have given some extracted ones to replace those that had already been completed, it is no use having a lot of partly filled ones when the season is over. I have two July swarms that I did not think would do a rack this season, but my judgment was at fault, as they are filling up the space between the brood box and outer case, a proof that there is plenty of food for them yet.

One of the June swarms threw out a very large swarm on the last Sunday in July. They pitched in two clusters; I shook them both separately. One lot I took back to the stock they came from; the other—a strong lot—I jerked out before a second swarm from a wild lot the wood-cutters brought me in a hollow tree. They all went in at once, but the wild ones would not have them. Each day a lot were laid outside; it was a sad sight to see them. Again my judgment was at fault; this wild lot would not have the foreigners. I ought to have waited till night; they might have tolerated them then. But you never can tell. In the next stock is a lot which amalgamated on their own account. One lot had their queen die soon after swarming, as I stated a few weeks back. This last lot has filled one rack of sections, and look as if they would swarm when the sun is warm, so very strong they are.

It is a source of pleasure to us who live in rural England to read of the meeting of bee societies, particularly the Street and Glastonbury one in the last issue of the B.B.J. It is based on what I consider the right lines; all associations should be worked co-operatively. Who would not be a member of that society, and have the option of a stock for 10s., all taking shares for mutual benefit? No sane man expects to get something for nothing, but here is a start in bee craft for 10s. This year even small swarms have changed hands at 20s. and two guineas each. If not something for nothing, it is a good lot for a 10s. share in that society; but then Street has always been famed for its production. It had one of the best poultry societies, all working for one another and helping each other—that will be the new England after the war.

It would be a grand thing for Dorset if the beekeepers had a society on similar lines and made the shares at 5s. so that the cottager could join in. The wealthy members could take more than one, and, from what I know of them, they would help such a society for the production of a valuable food. If in this small farm a thousand sections of honey can be harvested, the other bee-keepers will have another thousand pounds, and my friend, Squire Tomlinson, about 10 cwt., all in a radius of a few miles, what a lot of valuable food is wasted for want of harvesting! One might say, as our King did a few years back, when he had a tour round the Colonies: "Wake up, England!" It is time for Dorset to wake up and start its villages with bees. We have our boot clubs, coal clubs, and even pig clubs—why not bee clubs? Pigs and poultry cost money to feed them, but bees get their own food, and a handy man can make the hives. The only cost would be sections and bars—the initial cost would be all; but with pigs it is a meal each day, and three times each day, unless you have a farm and plenty of waste stuff for them to eat.

One of your correspondents could not have read July 19 yarn correctly. I wrote: "I look upon July swarming as a calamity." I still think it is, for the production of honey; the stock from which the swarm leaves cannot make up its population in time for the honey flow; as a result, only partly-filled sections. I did not write the swarms did not do well; I have found over and over again that July swarms winter well, besides doing well.

To-day—Saturday—I began a driving tour through Dorset, having finished up the small fruit harvest. I have unloaded some of the hives, from three stocks three racks each; the rest can wait till I return. I travel on through Wareham, with its military camps, its old earth walls, which were thrown up at some time in history to keep the foe from the town, which used to be an old Parliamentary borough, but was thrown in one of the county divisions in the eighties.

The road through Holme Priory is very beautiful; in some places the trees meet overhead, forming an archway of greenery, and branches of oak, with their wonderful ramifications. Here no county council has arched the streams; the horse walks through them, glad of a drink in each.

No wonder the owners (it is the ancestral home of the Bonds, of Creech Grange) are fond of this large slice of Dorset in which they live. On through narrow lanes of holly and oak to Bindon Abbey, the ruins of an old monastery.

I have noticed the old monks that settled in England always chose a site where the soil was productive and there was plenty of water. It was the monks that started production in the vale of Evesham; they soon found out the valley was full of potassic salts, one of the principal elements for healthy plant life. Here is a fine country for bees. This is where I purchased the English blacks that have done me such good service this year; here, by the side of the wet ditches, grows the willow herb most luxuriantly. In one place (at Winfrith) I saw a white one—the first I have seen in a wild state. This, with the purple loosestrife, the fleabane, the white meadowsweet, and that medicinal herb, the agrimony, all make the country roads very beautiful. As one gets near the sea, from out of the stone walls is the scarlet valerian growing and flowering profusely. In Weymouth, where I write this, ends the first thirty miles of my holiday. May all readers of the B.B.J. spend such a delightful one!—J. J. KETTLE.

BEES AND DISEASES.

Pte. E. Jeffery, R.A.M.C., 20th General Hospital, France, has sent in a cutting from the *Staffordshire Advertiser* of July 14, thinking it would be of interest to our readers. The following extracts are taken from it:—

The value of bees in the economy of Nature has been considered recently by the Staffs County Education Committee, the importance of the subject having been intensified by the ravages of bee diseases, and especially that known as the "Isle of Wight" disease. The real work of the bee is, of course, to carry the fertilising pollen from one flower to another, and if this is not done many varieties will remain seedless, with the consequence that fruit will be scarce. But, in addition to performing this assistance to Nature, bees in a healthy condition produce large quantities of honey, which is a wholesome food, and is also a valauble substitute for sugar. The "Isle of Wight" disease appears to have spread over the whole of England, very few spots being left without infection. In Staffordshire many bee colonies have been wiped out, and some idea of the resultant loss may be gleaned from the estimate of a competent authority that Staffordshire is capable of producing fifty thousand pounds' worth of honey a year.

At the suggestion of the County Council a conference of beekepers, convened by the Staffordshire Beekepers' Association, was held at Stafford on Saturday to consider the best means of reviving the industry in the county. It should be explained that the County Council have made a grant to the association on the understanding that the services of their chief expert should be available for beekeepers throughout the county, but although the association has done good work in fostering the industry, it is open to doubt whether their methods have been sufficiently up to date, and it is felt that more might be done to popularise bee-keeping. One prominent beekeeper favoured a publicity campaign with a view to removing what he described as a sort of rooted prejudice against beekeeping which seems to exist in some districts. One suggestion put forward was that a central apiary might be established for demonstration purposes, but perhaps the most feasible suggestion was that apiaries should be formed in connection with the horticultural plots conducted under the auspices of the County Council. There is no doubt that if simpler methods were adopted the industry would gain in popularity, as no doubt many would-be beekeepers are frightened away by the highly-scientific processes by which modern beekeeping is conducted.

STOCKSFIELD BEE-KEEPERS AT THE MOORS.

But for the heather, bee-keeping would be tame indeed. It is the call of the moors and the commotion of rolling up the hives to the midst of the purple bloom that makes the real fascination of north-country bee-keeping, not to speak of the far-famed quality of the golden heather honey.

The bloom, responding to glorious weather, is early this year, and once more the everlasting hills are richly garbed—far-rolling hills of purple flashing in the sunshine.

It is an old bee-keepers' saw that the heather is ready when the corn is ripe. This is hardly true this year, as the yellow in the cornfields is only patchy; but there must be no delay in heather bee-keeping; no fine days at the moors with the bees still on their home stands. So, with a speeding motor lorry and sixteen hives, the Stocksfield bee-keepers passed through Edmondbyers on the morning of the 5th inst., and placed them amongst the bonnie, blooming heather. In a very few minutes after removal of the guards of perforated zinc the bees were flying briskly and carrying in both nectar and pollen and gathering water at the stream.

The release of the irate bees was not without mirth-provoking incidents, especially when two sorely-pressed bee-men were compelled to bury their heads in the none too deep heather only to realise what an attraction bald heads have for angry bees.

Edmondbyers, which thirty years ago with its homely thatches, was such a comforting relic of the old past, has got touched with a new prosperity. Now summer visitors woo bronzed health over the breezy heaths and uplands. For here is your only moorland village where the heather blooms up to the very doors. No painful walks to find the moors: but at once out of doors, bright eyes, bright sunshine, and sparkling moorlands.

Seven years ago the bee-keepers used to make Edmondbyers hum with the rolling up of 600 bee-hives. The total number this season will not reach 100 hives. Is it the turn of the tide, and is "Isle of Wight" disease gone for ever? May it be so, and may Edmondbyers in future seasons hum with a lively duet of visitors and honey bees.—J. N. Kidd, Well Close, Stocksfield.

BEE-KEEPING IN NEW ZEALAND.

By Fred. C. Baines,
Kati Kati, Bay of Plenty, N.Z.

The season just closed has been a very peculiar one for the bee-keeping industry, particularly so in the North Island. Taranaki, which usually has an abundance of rain, experienced one of the driest seasons on record, so much so that the clover didn't come away as it usually does, what did grow secreted very little nectar, and the thistles, which as a rule constitute a considerable part of the crop, were an absolute failure. One man with 300 colonies obtained only 5½ tons, which is very poor indeed. Auckland and the Waikato districts, where one expects warm and settled weather, experienced so much rain that all records were easily broken, and the bee-keepers there secured only very moderate returns. I was riding through the Waikato district in February on a railway journey, and from the carriage window saw one apiary in a dreadful state. A wind and rain storm had occurred during the night, and hives without covers and stands were floating about the paddock. Canterbury has had only a fair season; they were in want of more rain. Southland has had a phenomenal season, everything being just right from the bee-keeper's point of view, as is evidenced by the fact that one 100-colony yard yielded 10 tons and one 138-colony yard yielded 14 tons, which, to say the least, is "some" honey.

Since my last article appeared in the Journal, I have moved to a more congenial climate than Taranaki, which, after experience, I am convinced is too unsettled and wet in the spring for successful bee-keeping. My move entailed a railway journey of 375 miles, with a 20 mile jaunt by road at the end it, and what with 68 colonies of bees in one truck, and five other trucks full of gear, supers, tanks, extractors, saw bench, engine, etc., etc., necessitating eight five-horse wagons for the road part of the journey, I think I know a little what shifting an apiary means.

However, I am satisfied I made a good move, as in spite of the wettest season on record I averaged 123 lbs. per colony, with an increase from 67 to 93, so that I feel sure in a normal season I shall do very well indeed.

Our Co-operative Association is doing splendid work for the industry. Since it started it has increased the price of honey on the local market by about two-thirds, and the export price has increased from about 40s. per cwt. London to 5d. per lb. New Zealand ports, or 7½d. Bristol. We also have the satisfaction of knowing that our honey is being sold as New Zealand honey, and people who buy it come for it again, because not only is it quite as good as English, Californian, and Narbonne, but it is very much cheaper. When our honey was sent to the London market and was sold at auction, we know that in many cases it was retailed as anything but New Zealand produce; it "filled the bill" for that raised in all the three countries mentioned, to the benefit of the buyer, not the producers. But co-operation has altered all that, and we now get the full return, as we have control until the honey is sold —not to the broker to sell to the merchant to sell to the retailer, but *direct* to the retailer, from the producer. If you can show me a better system of marketing I am willing to learn. The Co-operative Association is now entering the bee supply business, so that shareholders will be allowed a discount off all supplies, and share in the profits made, so we feel confident that, through co-operation, our industry is on a sure and firm basis, our market is steadied and controlled, no gluts and no shortages, but the supply regulated to the demand all over the Dominion, with increased demand for our honey, which consumers are finding of one uniform quality, instead of this and that brand of doubtful origin and condition.

Our Annual Conference, which is to be held in Wellington early in June, is becoming more and more popular every year, and why not? When there is opportunity for meeting so many good fellows (and good women, too), hearing good papers read, discussing matters vital to the in-

dustry, seeing the actual working of the results of the more inventive brethren of the craft, not omitting the social part of the meeting, it is an occasion when one feels it is good to be alive and a bee-keeper, especially when I compare it with the life I led in London for 18 solid years in a dingy office overlooking roofs and chimney pots, it is a matter for thankfulness to God that my health broke down and I was permitted to have the experience of "real life" in becoming a bee-keeper in New Zealand.

War and bees are not proper language, but I cannot close this article without paying tribute to the many men of our craft who have gone forth to fight, many of whom have paid the supreme sacrifice, and I am convinced they did and are doing their duty well, as I am certain a bee-keeper who "makes good" with bees is one who will "make good" in anything he takes up. God send a speedy termination to this awful strife, so that our craftsmen may come from the awfulness of the battlefield to the most peaceable and beautiful occupation in life "amongst the bees."

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

FIFE NEWS.

[9492] Our little pets in the hivedom have made great progress this season in honey gathering. Beginning with a cold spring, they were sorely kept back, and had a lot to make up before the honey flow, which generally begins about the middle of June with us; but I am glad to say that they made good progress, and have given, in general, good results. My own stocks will average 40 lbs., with which I am highly satisfied. I am sorry to say that "Isle of Wight" disease is with us here, it is a "fell" trouble. Some have lost their all. Like our friend, J. Kettle I have tried all the "ols," and am glad to say that with "Bacterol" I have been able to keep it under, and am hopeful for a cure, but time will tell. My method has been to give the stock a good spraying before supering, after that, spray in at the hive entrance once a week, forcing it in to the hive as far as the sprayer will put it, and my apiary is free of crawlers now and bees are working strongly. I will give them two or three good sprayings over all combs before closing down, and also medicate any, and all food given in the autumn. I hope that more of your readers will give results of this season's treatment, and so we will help one another. Some of your correspondents have had a lot of swarms. I am sorry to say that I have only had one. I would have liked more as am a strong believer in queens raised under the natural impulse of swarming; it seems to me more simple, and easier gone about than artificial rearing of queens; however I can quite understand that a greater number of queens can be reared artificially, and when queens are reared for commercial purposes much better results can be obtained. I was glad to see that friend Pearman put his foot down against extortionate prices. No doubt we are at war, and everything has risen in price; but I hope that bee-keepers are not to be classed as "profiteering" thereby, and also think that 1s. 6d. is a good price for honey, either in sections or jars. Bee-keeping in Scotland is making good progress. Bee-keepers are banding themselves into Associations all over the country, affiliating themselves to the Scottish Bee-keepers' Association, and I expect that before long you in England will require to look to your laurels, or it's a back seat you will take.—"HEATHER."

ADVISING BEGINNERS.

[9493] In conversation with a novice recently several points arose which I think deserve the consideration of the B.B.J., the B.B.K.A., and all bee-men interested in the spreading of a knowledge of the craft. The whole question amounted to this: Those of us with a fair knowledge and experience, although willing to advise, failed to put ourselves in the position of the novice, and so seem unsympathetic, and talk over their heads. This is, I am afraid, true, for, on reviewing my own instruction and advice from the beginner's standpoint, I felt pretty guilty. The B.B.J. also came under this heading, although, it must be admitted, it is a very difficult matter to please all; yet I feel that articles after the style of the "Helpful Hints to Novices" will do more real good than some of the present

admittedly interesting (to bee-men) subjects. Coming to the B.B.K.A., the complaint was that, writing for advice on setting up bee-keeping, all that was sent in reply was a pamphlet on food-production, and my informant thought that if this was all the Association could do, it was hardly worth while saying it was formed to aid bee-keepers. I am sure, however, there was some error in the last case. However, it seems to me we should carefully examine ourselves to see if there is any truth in these complaints, and, if we find there is, to take energetic steps to remedy matters.

G. James Flashman.

BEGINNERS GETTING IN TOUCH.

[9494] Mr. Gibbs at last has been good enough to give us bee-keepers his method of treating the "Isle of Wight" disease with Bacterol. I, for one of thousands, no doubt ought to be thankful to read it, and shall certainly act on it, as I lost one, if not two stocks last winter.

Also, do you think that what I am mentioning now would be a good idea to carry out? I am a young beginner in the bee-craft, and I feel that it would be a good idea if one or two of us beginners could get in touch with each other, and so mutually help each other, by discussing our failures and our successes.

I have had my failures this season through inexperience, but hope to do better next year, as I have had some tips from old bee-keepers, and many thanks to them.

If you could see your way clear to insert this in your journal, do so, and I should be pleased to get in touch with one or two others within about six or eight miles from here, and should this meet the eye of another beginner he could communicate with me through your office.—Norse.

[If any reader in the neighbourhood of Guildford or Aldershot would like to communicate with our correspondent we will be pleased to forward any letters addressed to "Norse," c/o this office.—Eds.]

PROFITABLE BEES NEAR LONDON.

[9495] As a reader of your journal, I think you may be interested in this. It shows what can be done only just outside the four-mile radius.

Last year I obtained a nucleus of four frames, to which were added another four. This gave me 80lbs. of extracted honey, and was divided.

This season I have taken from one of the divided stocks I kept, 100lbs. of extracted honey, and have divided the bees, making two promising stocks with new queens. All this under the skilful guidance of Mr. F. W. Watts, the well-known expert, who himself from three stocks has taken 375lbs. of honey and a rack of sections, besides making up three more stocks. All six are strong, three literally "boiling over," and under normal conditions would make two more; but there is no sugar available, in spite of the great advantage of bee-keeping to the community.

All the bees are free from disease.

Robert H. Punshon.

WANTED—HIVE ROOF COVERING.

[9496] Could you, or any of your readers, inform me of any roofing material with which I could cover the roofs of my wooden hives in order to make them weather proof? My roofs are made of matchboarding, and the tongues and grooves open and close with the weather, allowing the rain to get in when it is wet. Putty is of no use, as this also shrinks. I have tried running melted pitch down the seams. But this re-melts in hot weather, and consequently runs off. I do not like tarred felting. I have tried on one or two hives stretching a sheet of calico and painting it. But this is tedious. What I require is something like felt, but of a better kind of material. Does any reader know where I can get something suitable? The importance of keeping the wet from the interior cannot be too well known, and it is well worth taking precautions to secure it.

Mel-Chior.

[So far as our own experience goes, there is nothing to beat the painted calico covering. It may be a little tedious, but once done will, with proper attention, last for years, and, as our correspondent says, keeping the wet from the interior of the hive is so important, especially during the winter, that it is well worth taking all precautions to do so, even if it does involve a little tedious work.—Eds.]

KENT BEE-KEEPERS' ASSOCIATION HONEY SHOW.

The annual honey show of the Kent Bee-keepers' Association will be held on Saturday, August 25, at the Westgate Schools, Hythe Street, Dartford (opposite station approach). The exhibition will be opened at 3 p.m.

A series of lectures and demonstrations will be given at intervals, including frame building, honey extraction, etc.

The Association extends a hearty welcome to all interested.

Geo. Judge,
Hon. Secretary.

PRESS CUTTINGS.

THE OBLIGING BEE.

The Cockney visitor who, when he saw a jar of honey on the farmhouse breakfast table, remarked: "I see you keep a bee," was no more ignorant than the majority of townsfolk on this subject. But now the clarion call comes from all patriots to keep several bees to make up for the sugar shortage, and we must seek enlightenment from Maeterlinck and other authorities, though it seems rather unfortunate that this scheme was not thought of before we were ordered to grow nothing but vegetables. Honey is going to be very valuable this season, and some people have all the luck. I know a man who lives in an ancient wooden house, and high up in the wall swarms of bees have effected an entrance, and are filling up the top storey with honey as fast as they can do it. He has had the floor strengthened, and now all he has to do is to sit with his feet on the mantelshelf, smoking, while these insect slaves are piling up a fortune for him overhead.

* * *

Bees can be used for other than honey purposes, and sufferers from rheumatism will be glad to know that they need not worry about the coming scarcity of doctors; they should try the bee-sting cure. In Derbyshire some people who have developed this complaint place a bare limb in front of a hive and stir up the occupants with a stick so as to get well stung on the affected part. They must be a hardy race: personally I would rather go on having rheumatism.—From the *Surrey Comet*.

STRANGE MORTALITY AMONG BEES.

Much alarm is felt by beekeepers in North Devon, where whole swarms of bees have been found dead. It is presumed that they died in consequence of having worked among the flowers of potato plants which had been sprayed with a patent mixture to keep off disease.—From the *Nottingham Evening Post*.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

August 29, at Lincoln, Boultham V.A.D. Hospital.—Lincoln Horticultural Show.—Honey gift classes, 1lb. extracted, section; prizes 3s., 2s. Help our wounded soldiers.—Banks, secretary, Boultham, Lincoln.

September 5th and 6th, 1917, at St. Andrew's Halls, Glasgow.—Glasgow and West of Scotland Horticultural Society.—For bee schedule apply to Hugh M. Mackie, C.A., 124, St. Vincent-street, Glasgow, Secretary.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

A Bee-keeper (Chorley).—*Queen Introduction.*—(1) It is not necessary to cage the old queen at all. Just take her away 24 hours before you wish to introduce the new one. (2) No. We prefer to use a cage. (3) It is impossible to say. Possibly about 10 to 20 per cent. (4) Not always, but it is generally. (5) They are the same. (6) Yes; the second cross is usually the worst.

Regular Reader (Monmouth).—*Brewers' Syrup for Feeding Bees.*—If the syrup is made from brewers' sugar it must not be used for bee food. There are many grades even in cane sugar, and only *white* sugar should be used for the bees. (2) Yes. If the calico is fairly thick; if not, use two thicknesses. (3) Yes, but muslin will be too thin. If you use it put on two or three thicknesses. (4) Slow feeding is to stimulate brood rearing, and is usually carried out in the spring or during this month. Rapid feeding is for winter stores and should be finished during September.

X. Y. Z. (Wales).—*Crossfield's Golden Syrup for Bee Food.*—It is not suitable.

H. C. M. (Rusholme).—*Preventing "Isle of Wight" Disease.*—Medicate all food given and keep the hive supplied with disinfectant. You may extract the honey from the brood combs, add a little water, and boil it for 10 minutes When cool medicate and feed back to the bees. You will find instructions how to make a W.B.C. hive in the "Bee-keepers' Practical Notebook," 1s. 1d. post free from this office.

Miss Dixon (Canonbury).—*Identification of Bees.*—They are *Bombus lucorum*, not quite so large as the ordinary humble bee, but otherwise similar in appearance. There is no danger from them, as they are mild-tempered, and seldom attack animals, and they are not likely to try to get into the house.

Miss Lewis (——).—*Current Weekly Prices of Honey.*—We will be pleased to give this for different localities if our readers will report them.

Amateur (Edgbaston).—*White Froth on Honey.*—It is the air bubbles out of the honey, and should be skimmed off.

South Wales (Glam.).—*Time for Feeding Bees.*—(1) Next month if it is necessary. (2) Yes. (3) Now if the colony is strong, and you are near heather; otherwise not until next season.

Bees (Catford).—Take away the second box of shallow combs, extract any honey they may contain, and store them for next season. You may put in the frames of foundation.

Swarm (Lincs.).—It would depend on the treatment of the bees. If simply left along, and without supers, they would most likely swarm.

Rustic (Glam.).—Not later than the end of this month as a rule. One brood comb will hold when quite full about 5lbs. of honey. The bees need from 25lbs. to 30lbs. for winter stores. If you have no extractor you can either cut out the combs, break them up, and strain the honey off, or uncap them, lay down flat, and allow the honey to drain out, turning them over when it is all out of one side, and keeping them in a warm room, but it will take a long time.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1d. per word as* "**Business**" *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ½in., or 5s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WANTED, few healthy driven Bees for cash. State price, COLVILLE, Chatton, Belford. i. 30

FOR SALE 2 strong stocks of bees on 10 frames. Healthy. 32s. 6d. each on rail, no hives; travelling box returnable. Cash or deposit. HILLS, The Apiary, Alton, Hants. i. 32

WANTED some really good mead. Please send particulars and price to Colonel Sir William Serjeant, St. Benet's Abbey, nr. Bodmin, Cornwall. i. 33

HYBRID ITALIANS.—Two good ten-framed colonies, 60s. each; five strong four-framed nuclei, 25s. each, on rail; travelling boxes must be returned; disease unknown in apiary.—Address, "CHISWICK," c/o BEE JOURNAL Office, 23, Bedford-street, W.C.2.

A FEW 1917 Italian hybrid queens to spare; healthy and prolific; safe arrival guaranteed; 5s. each.—APIARY, Buckfast Abbey, Devon. i 2

STRONG early July swarm, on 6 frames; young queen; £1 2s.; box returnable.—MATTHEWS, Bee Expert, 25, Cray Road, Crockenhill, Swanley, Kent. i 43

2½ CWT. light English honey, 28lb. tins, 180s. per cwt., f.o.r.; sample ½lb. 1s. 1d., post free; 7doz. well-filled sections, 20s. per doz., f.o.r.—HULL, Beekeeper, Barrow-on-Soar, Leicestershire. i 44

WANTED, at once, two 4-lb. lots of driven bees, 1917 queen; guaranteed healthy.—RICHARDS, Florence Villa, Ilfracombe. i 45

DELICIOUS first-grade sections, 24s. doz., carriage paid.—NORTH, Cressing, Braintree, Essex. i 46

72 prime, light-coloured clover sections for sale, carefully packed and delivered free; price 21s. per doz.—DAVIDSON, Byrkley Street, Burton-on-Trent. i 47

TWO 1917 Banat-Italian queens, healthy and prolific; 5s. each.—HARPER, 39, St. James' Road, Watford. i 48

1917 surplus queens, Carniolan, fertile; 5s.—T. TUDOR, Jun., 20, Spring Cottage, Little Drayton, Market Drayton, Salop. i 49

WALLFLOWERS, Old Gold, Harbinger, Ellen Willmott, mixed, strong transplanted bushy plants; plant now to secure early bee food; 25 1s. 6d., 50 2s. 9d., carriage paid.—CLEMENT, Codmore Hill, Pulborough, Sussex. i 50

NUCLEUS HYBRIDS, Black-Carniolian, three frames, £1 1s.—HAGUE, Kirkham, Lancs. i 51

WANTED, 3 or 4 lots of healthy driven bees; also Meadows' new wax extractor.—MOSS, Expert, Hillside Apiary, Hinckley. i 52

PURE Italian nucleus and hive, 4 frames, 1917 queen; 27s. 6d.—BEESON, Southwell, Notts. i 53

WANTED, Simmons' Conqueror hive, with or without stock. Send price, etc.—ROWLAND HARRISON, 3, New Durham Road, Sunderland. i 56

I PURCHASED (1914) three Simmins' "White Star" queens; since then have not seen "Isle of Wight" disease. All other bees in district have gone under. Can offer 4-frame nucleus, 21s.—A. A. L. SKINNER, Tomato Houses, Mickleover, Derby. i 4

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

HARDY 1917 Italian queens, pure, fertile, reared by experienced breeder in France under climatic conditions resembling those in England. Buyers will receive queens direct from France. Very prolific, industrious, and good tempered. 5s. 3d. each.—ELLIOTT, "Westfield," Kelvin-road, Ipswich. i 55

HOW to cure "Isle of Wight" Bee Disease. Send stamped addressed envelope to MR. P. N. GELSTON, Pharmacist, Basingstoke.

JULY SWARMS. What offers?—PRYOR, Breachwood Green. i 54

ITALIAN BEES.—Pure, healthy, 10-frame stocks, 1917 queens, stocked with bees, brood, and honey; just right for heather; £5 per stock.—DUTTON, Little Packington, Meriden. i 36

FOR SALE, in September, eighteen lots of Driven Bees.—E. WHITE, Redhill Apiary, Holybourne, Alton, Hants. i 37

1917 IMPORTED Golden Italian Fertile Queens, 5s.; specially selected, 8s.; regular supplies until end of season.—GOODARE, New Cross, Wednesfield. i 38

STRONG healthy Driven Bees, with young queen, 6s. 6d. per lot; boxes returnable; spare Queens, 1917, 1s. 6d. each.—A. R. MORETON, Bee Expert, Hallow, Worcester. 20th season. i 39

NUCLEI, Dutch and Golden cross, 4-frame and brood, 24s.; 6-frame, 33s.; 6-frame Dutch, 32s.—W. GREEN, Laindon, Essex. i 40

1917 PURE Italian Queens, guaranteed healthy, fertile, excellent honey gatherers; prompt dispatch, weather permitting; for particulars, stamp.—CROWE, Stawell, Bridgwater. i 41

BEES WAX, in any quantity, 1s. 9d. lb. given.—CHARLES FARRIS, 71, Bishopsgate, London, E.C. 2. a 8

FINE large virgin queens from famous disease-resisting strain, 2s. 6d. each.—O. E. MINCHIN, Ivy Cottage, London-road, Greenhithe, Kent. i 27

"ISLE OF WIGHT" Disease permanently cured without loss of bees; solution, 1s. 6d. tin, post free.—PRESSEY, St. Elmo, Coulsdon, Surrey. a 9

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Gunner H. Valley, The Gardens, Saxilby.—R.F.A.

PALESTINE AND BEE-KEEPING.

There has been a lot of talk in the papers the last few months of the doings of the Egyptian Expeditionary Force in Palestine, and I am sure some of the readers of the *B.B.J.* will be interested to hear something about this ancient country as regards its bees, and its prospects as a bee-keeping country. Before, however, dealing with the bees and the country, I think it would be as well to give a short description of the march into the "Promised Land." On February 1st my regiment left Ismailia, a town by the Suez Canal, and situated in the Land of Goshen. For nearly two months we continued the march over the desert, sometimes digging, holding outposts, etc., but all the while driving the enemy steadily before us. We stayed about three weeks at El Arish, and then the march into Palestine commenced again. Prior to this we had seen nothing but sand for months, but upon reaching Rafa, on March 24th, we found the ground getting more fertile every mile we went. We left Rafa about 3.30 a.m. on Sunday morning, March 25th, and upon the march the sights were most gladdening. There were barley fields in great abundance, lovely hills covered with grass and flowers, which greatly reminded me of the South Downs in Sussex. About 9 a.m. we came to vineyards, and in one of these our regiment took cover for the day, to be out of sight of hostile aircraft continually hovering above us. These vineyards were really beautiful, and were surrounded on all sides by thick walls of cactus, like small trees, and it would be quite impossible for anybody to break through. Inside were all sorts of fruit trees, such as peach, almonds, oranges, lemons, grapes, and many other species I had never seen before. The thought at once struck me, what an ideal place for an apiary. It also reminded one of the story in the Bible of how Ahab coveted the vineyard of Naboth. Well, to get more to the point as regards the bees, I may say that after arriving at the vineyard just described, my work took me into the picturesque village of Khan Yunus, which we had just taken from the Turks. On entering the village market place we were at once pestered by the natives, who were selling oranges, and clamouring for "Backsheesh" (tips). They had no knowledge whatever of the English language, and one native boy offered me two oranges for 2s. 6d., or in Egyptian twelve piastres. On entering the village and passing through some narrow, dirty alleys, with women and children sleeping, and sitting lazily about in the dirt, I noticed some bees flying round the roof of one of the mud houses. These houses are built of mud and stone and all sorts of rubbish on the roof, which seems to make an ideal home for lizards. To get to the house where the bees were located, I had to enter the yard, and, though it was strictly against orders, I could not resist the temptation of seeing those bees—the first I had seen for over seven months. On entering the yard I saw three native women sitting round a fire cooking some food, and by the looks on their faces they certainly boded no good for me. On getting to the house I noticed a stone had been dislodged (for these mud houses soon fall to pieces), and there was a cavity about twelve inches square about eight feet from the ground, near the roof, which consisted of palm leaves and other rubbish. The bees, however, seemed quite happy, and were working busily. On removing some of the palm leaves from the top I managed to make a hole large enough to enable me to see pretty well into the combs, and so far as I could judge there were about six combs with brood and honey, and, roughly speaking, about 10,000 bees. The bees were very light in colour, with three very distinct white bands, and about the same size as our own native bees. On trying to get some honey I had a novel experience, for, to my surprise, I felt a sharp tap on my back, and on looking round found myself confronted with these three

native women, each armed with some dead branches which had been lying about the yard. They undoubtedly meant business, and as both my chum and myself were unarmed at the time, and had no business to be in the place at all, we thought it best to beat a hasty retreat to avoid a disturbance. The bees, therefore, had to be left, but I was able to satisfy my curiosity. The honey was of a nice flavour, and not unlike the honey we have in our own country from sanfoin and clover. In the evening on the same day we again marched towards the enemy, and on the morning of the 26th March came up with him at Gaza. Our line extended through barley fields, and plains covered with flowers, but the sterner work we had on hand prevented me from examining the bees, butterflies, birds and other interesting things which seemed to be in great abundance. Luckily I came through the battle without a scratch, and later on we retired on the Whaddi Guzzi. For the next three weeks we were engaged in consolidating our position in front of Gaza, and I had plenty of time to examine the bees, which were very plentiful. I saw two distinct varieties, one very light in colour, and having the three yellow bands; the other variety I have already described. Clover, sanfoin and trefoils, besides other flowers, were to be seen everywhere, and fruit trees also abounded. What struck me forcibly was what a splendid country it was for bees kept on up-to-date modern lines. It appeared to me as a land, indeed, "flowing with milk and honey." As regards the climate, it is not so hot as in Egypt, and the nights are cold, with very heavy dews. It is surprising what fine crops of barley the natives get considering the crude methods they have in use for cultivating the land. I had hoped to have investigated the bees of Palestine more closely, but unfortunately I was dangerously wounded in the second attack on Gaza on the 19th April, and there is little hope of my going back there again. I had preserved several specimens of flowers and bees which I intended to send to the Editors after battle, when we could post them, but unfortunately while I lay out on the battlefield wounded, the Turks came and robbed me of everything I had, and as I had specially taken things I valued with me in my pack, these specimens were taken as well. In concluding I would like to thank all those who have sent me their kind sympathy in my trying illness, and though I shall never be quite my old self again, I am pleased to say my wounds have now healed up, and I am going on well. —No. 240329 (late 2366) Pte. JULIAN E. LOCKWOOD, Nasrieh Military Hospital, Cairo, Egypt.

SOUTH STAFFORDSHIRE AND DISTRICT BEE-KEEPERS' ASSOCIATION.

On Saturday, August 18, the members of the above Association met for a summer gathering at the apiary of Mr. A. Cheshire, Coseley, near Bilston. It was a great success, and favoured by fine weather over 40 members took advantage of visiting this apiary in the centre of the Black Country.

Mr. Cheshire very kindly showed the visitors the interior of some of his hives, and explained his methods of management and treatment for prevention of disease, which was greatly appreciated.

Several stocks were seen that still have their surplus honey on, some more than 100 lbs. each. There was no disputing the fact that Mr. Cheshire could produce stocks of great strength, and the honey in the supers convinced all who saw it of its exceptionally good quality.

After partaking of an extraordinarily good tea, provided in the grounds of "Ingleside" (kindly lent for the occasion by A. Lathe, Esq.), some members engaged in a game of bowls, whilst others chatted on bee matters, and smoked.

Before closing, Councillor Salter, of Tipton, moved a hearty vote of thanks to Mr. Lathe and his family for their generosity in placing the grounds at the disposal of the Association, and remarked that it was generally well known in the district that if any good cause wanted assistance in any way, the Lathe's were always ready to help. Mr. Robinson, of Sedgley, seconded this, and said all were delighted with the arrangements for the meeting. Mr. Lavender, of West Bromwich, said he thought before parting Mr. and Mrs. Cheshire deserved their hearty thanks for the splendid tea, and other arrangements that had been made for their comfort. Mr. C. C. Thompson, of Dudley, seconded, remarking that meetings of this kind entailed a lot of work beforehand, and he was delighted that so large a company had responded to the invitation, despite the fact that many were probably still on their holidays. He hoped these visits to members' apiaries would continue, and he felt sure the Association, and bee-keeping generally, would benefit. Both proposals were carried unanimously.

The Hon. Sec. then informed the gathering that arrangements were in hand for an exhibition of bee produce, to be held in Dudley sometime this autumn, and he hoped members would not be tempted by the present good prices for honey to dispose of all their surplus, and have none left for this display, which would be an exhibition open for the pub-

lic to see what could be produced in a district like this.

He also remarked that the Association had, since its formation in 1913, demonstrated that there were great possibilities for bee-keeping in this locality, and some of its members, particularly the one whose apiary they were now visiting, had shown that with perseverance a successful fight against disease was possible. But it needed great care, and resource to fight it as Mr. Cheshire had done.—JOSEPH PRICE, Hon. Sec., Haden Hill, Old Hill, Staffs.

POLLEN.

BY MR. A. C. TAGG.

(Paper read to Dartford Naturalists' Field Club to promote study of pollens by botanists and bee-keepers for co-operation in increase of plants yielding honey and pollen to our bees.) The Field Club are very kindly co-operating with the Kent Bee-keepers' Association in the production of a series of micro-slides of the various honey and pollen-producing plants, and Mr. Tagg's paper was given with the object of showing the various ways of mounting the pollens and the precautions to be taken.

Pollen was a familiar object to all of them, but often aroused little interest until large quantities in the air caused such nuisances as hay fever and asthma to some people. But the tiny yellow or golden dust was of vast importance. Although so minute, a pollen grain was a most interesting vegetable cell, and perhaps the most essential cell in plant life. Without it no fruit would grow. Pollen was developed on the anther. Some were divided into four little pollen grains, like four little cricket balls arranged in a heap like a pyramid. This helped them to identify certain kinds, such as ling. In ling again, the grains (pollinia) always remain united, while in the willow-herb they were united by comparatively long threads of viscine, a viscid matter.

But in most cases the grains split away, ultimately the bag bursts open, and the pollen is shed. The size varies a lot, affording another means of identification. Thus the Alpine Forget-me-not is .0025 mm., but the jalap .25 mm., a vast difference. The size is related to the length of style. The number of grains varies in the anther, some have an enormous number, 60,000 in the common borage, but in the jalap very few, 32 only.

The colour varied from yellow, golden, to red, and some almost black, so that in the comb the different colours helped to distinguish the various pollens. The structure was very wonderful, and could be observed under the microscope. Imagine a cell as a tiny box with two walls, inside wall thin and membranous, the outer thick and comparatively woody. Inside was protoplasm, like granular gumwater, with three little denser portions. The outer wall had weak places. In shape they were generally ellipsoidal. In the primrose, where the pin-eyed had a long style, and the thrum-eyed a short style, the pollens were of two sizes.

The flower with the short style had smaller pollen, only one-third the size of the others. Pollens could be roughly divided into two groups, (1) *Anemophilous*: very dry; easily blown away; walls smooth; carried by wind; (2) *Entomophilous*: sticky; walls have projections such as spines, spikes, knobs; these are carried by insects.

The stigma of the flower is viscid, also the pollen grain has a moist sugary surface. Just as a seed sends down its shoot into the ground, so the pollen grain sends down a shoot. Now it could be seen why a short style needed only a small pollen grain.

The little ovules, immature seeds, became fertilised, and the fruit developed.

Plants developed very wonderful adaptations for the protection of the pollen grain and its dispersal. When wind-carried—as from the pine, fir, larch—an immense quantity was formed, often falling as a rain of "sulphur." In the Bournemouth area large amounts were carried up into the air, rain washed it down, causing "sulphur showers."

Balsam growing near the Darent stream was mentioned for its protection of the pollen. The young buds developed in the leaf-axil, as the flower formed the leaf-stalk turned right over. The flower under the leaf was saved from the wet, which would mass the pollen together, or cause the walls to thicken and expand.

How long does the pollen cell remain alive? Here there was room for observation. Observations showed that the wall-flower remained fertile fourteen days.

But pollen abroad was sent to Britain for palms and cycads here, while Arabs save date palm pollen from year to year. Before collecting and mounting pollens, they must be careful to ascertain the plant, to establish its identity. Dry mounting would furnish very nice, beautiful slides, to examine with a spotlens, under the stage. For this, one need not use the high power.

Some pollens contained oil and starch grains useful for food. For transparent slides, it was necessary to get rid of this oil by clearing with carbolic acid, before mounting with Canada balsam.

CORRESPONDENCE

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

KENT BEE-KEEPERS' ASSOCIATION AND THE PRICE OF HONEY.

[9497] With reference to Mr. Pearman's criticism, page 234, July 26, of the market prices of honey quoted in the July circular of the Kent Bee-keepers' Association, reprinted in the BRITISH BEE JOURNAL of July 12, page 217, it would appear that Mr. Pearman's knowledge of the ruling rates in this county is somewhat at fault. The Association's object in making the announcement of the current value of honey was an honest attempt to stabilise prices, to secure to the producers their due share of the profits, and to prevent "profiteering" by dealers and others who buy up the crops from those who are not so well informed regarding market prices. There is no need for me to defend the rates quoted in our circular, because they represent the average taken from different parts of Kent. In one instance the whole of the output of sections from an apiary of 45 stocks was sold locally at 18s. per dozen (unglazed). Excluding the London area I know of other instances where sections are being retailed at 2s. 6d. each, and there is evidently a ready sale. In London half lbs. are being retailed at 1s. 3½d. each, while 1-lb. jars are realising 2s. and above. I have before me a wholesaler's list offering honey (by the way, not necessarily English) at 15s. per dozen 1-lb. jars, and 8s. 3d. per dozen ½-lb. jars.

The factor governing the prices of honey (in common with all other commodities) is the law of supply and demand, and the resultant rates of any particular article of food, it must be remembered, may bear no relation to its nutritive value.

Mr. Pearman says honey is not worth 1s. 9d. or 2s. per lb.; we may as well say eggs are not worth 3½d. or 4d. each, or butter 2s. 6d. per lb., yet there is a ready sale at these prices. The value (or worth) of an article is the sum consumers are willing to pay for it, and which, in the absence of Government control, must vary from time to time according to existing circumstances. Owing to the shortage of sugar, honey is in great demand, and I for one believe that if all organisations of bee-keepers would co-operate with each other very much more could be done, not only in securing for honey producers their just proportion of profit (which at present often falls into the dealers' pockets), but in increasing production which is of paramount importance at the present time. There is ample scope for honey production, and the time is ripe for concerted action. When the supply is more nearly equal to the demand prices will automatically drop; in the meantime it is up to bee-keepers to produce all they possibly can.—GEORGE W. JUDGE, Hon. Secretary, Dartford.

DO BEES STEAL EGGS?

[9498] I do not know whether the following experience is likely to be of interest to your readers; but in any such event I should like your diagnosis of the case.

On June 2 I noticed a single half-finished queen cell in the one colony I had. I was anxious to have a second colony, so the bees were well watched, and a Brice swarm appliance fixed on. The colony did not increase rapidly in size, however, and on examination I found that the brood chamber was being largely filled up with honey. They had also developed slight "Isle of Wight" disease. As the queen did not seem to be prolific I arranged to introduce another queen on June 30. When the hive was opened in order to do so, an expert, who had seen the old queen, found that a young unmated queen was in charge of the family. She was killed and the fresh one introduced. What had happened? I am as certain as can be that there was no swarm.

But the most interesting thing to me is what followed. The queen introduced was killed by the bees between July 10 and 14. She was still in the cage on 10th; when I examined bees on 14th I found no trace of worker brood or eggs; there were, however, half a dozen queen cells in preparation and some capped drone brood. On 21st, while spraying bees for disease, I decided to take out the emptiest frame and after sterilising to introduce it into a nucleus in order to help them along with drawn-out comb. There were five incomplete queen cells empty, and one well-formed one capped on it. I opened it and found a large grub. This was the only sign of young life on the comb save

a single drone cell capped. I opened this and out walked a massive drone.

Now this colony had been queenless for 22 days, so that even though it were a drone grub, it could not have come from the old queen. If it had been laid by a worker, why were there not more? I have read of a colony in a tight corner that begged, borrowed, or stole an egg, Tickner Edwardes! Is it possible that this is the diagnosis? Of course, the expert may say at once it was a drone grub. But two frames of a nucleus with brood were placed in amongst this colony for about three-quarters of an hour or so. I was going to unite them, but being inexperienced I could not find the queen to cage her. I thought I would take the precaution of caging, as the queenless stock had destroyed the queen already introduced. Failing to find her, I took out the frames again. Is it possible that an egg was stolen during that time, or a young larva taken? I take it also that a certain number of the old stock would temporarily stay in the nucleus. They were all dusted with flour so that they ought to have been busy cleaning themselves rather than plundering their neighbours or the combs.

I may say that, to see what would happen, I put back the frame in its original place, but in about twenty to thirty minutes the grub was tipped ignominously over the edge of the alighting-board. Unfortunately I could not subsequently find the grub as examination, I suppose, would have settled the point at once.—C. S. Morris.

HIVE ROOF COVERING.

[9499] I believe if "Mel-Chior" (9496, p. 258) can get ruberoid roofing he will find all he needs for his hive roofs.

Previous to the war I paid 20s. 6d. per roll, 36 in. wide, 72 ft. long, No. 1 ply, together with nails and a tin of cement for joints, as supposed to be necessary per roll.

All that is required is to nail it on the roof, and to paint the nail heads with some of the cement, no tar or paint required. I have used it for bee hives, dog kennel, chicken coops, &c., and believe it to be the best thing out for the purpose.—J. P. G., Oxford.

HONEY PRICES.

[9500] You will be interested to hear that I have disposed of about 5 cwts. of honey at the following prices:—In bulk, £7 per cwt.: 1 lb. jars, 18s. per doz.

Unfortunately I have had a mighty struggle with "Isle of Wight" disease, about six black English stocks contracted it early in the summer. I have tried the much-advertised remedies: Bacterol has been the most successful, but it is not a cure. I have pulled the stocks through so far, but I fully expect they will go under in the winter, they persistently show symptoms.—J. Valley.

RE BEES AND DISEASES.

[9501] The cutting under the above heading from the *Staffordshire Advertiser*, which appeared in last week's issue of the *B.B.J.*, is finished by what appeals to me as an extraordinary statement: it runs thus:—

> "There is no doubt that if simpler methods were adopted, the industry would gain in popularity, as no doubt many would-be bee-keepers are frightened away by the highly-scientific processes by which modern bee-keeping is conducted."

It would be interesting to know what "simpler methods" were careering through the author's mind when he constructed that sentence. Were his thoughts wandering back to the "nothing-but-skeps" period? If so, I could tell him of an "all-skeps" apiary on one of the Cotswolds, in Gloucestershire, a small dairy farm, the owner of which—together with his wife and daughter—have had what could be described as a "busy time" this season, gathering up swarms and casts innumerable, the only difficulty was in obtaining sufficient skeps to house them in; as to the method, well, if they had been out for producing bees, well and good: what *could* be simpler, but, oh no, they wanted honey: here our skeppists will chime in, "and they will get some": admitted—*some*: and "everything in the garden will be lovely" until the "Isle of Wight" disease, or foul brood, pays a visit.

But perhaps he had in mind the incident recorded in the press-cutting from the *Surrey Comet*, headed, "the obliging bee." The method described there appeals to me as "the essence of simplicity," and at the same time reflects great credit on the man who adopted it, to say nothing of the forethought he displayed in strengthening the floor: the attitude he has struck, "sitting with his feet on the mantelshelf, smoking," will appeal to many people as quite in keeping with the scheme of things, which, let us hope, wont "finish in smoke."

As regards the "would-be bee-keepers" who are frightened away by "the highly scientific processes," my advice to them

is buy "The British Bee-Keepers' Guide Book," by T. W. Cowan, read it intelligently, and the "scientific processes" will be reduced to simplicity itself. This advice could well be extended to many "keepers-of-bees," who are a curse, rather than a blessing, to the craft.

E. J. L.

NOTES FROM GRETNA GREEN.

[9502] When last I wrote the BRITISH BEE JOURNAL my bees were located among the heather hills of Ross-shire; now they forage over the green fields of far-famed Gretna—the scene of many a romantic story.

The present-day Gretna, however, is sternly practical, and in the calm of the evening the beehives' hum is drowned by the deeper hum of the big dynamos that supply electricity to the surrounding munition factories.

But I digress. The 300-mile journey from Ross-shire to the Solway shore proved disastrous to the bees. From various causes they dwindled down until a dozen stocks were reduced by this spring to a single colony of Italians.

The present season, however, has been so favourable that I now find myself the owner of five colonies, and a large surplus of comb honey as well. I have already removed three full supers, leaving other five, partly sealed, still on.

Just now, the pleasant scent of heather honey is in the air, and the strenuous little workers start out each morning at 7.30 for a long day's work, "owre the muir among the heather."

This evening they worked on until after eight.

The nearest heather hills to us are in Cumberland, and beyond the reach of our bees, so their energies are confined to the Solway Moss moors.

When time permits, I hope to give full details of the season's working.—J. M ELLIS, Gretna.

PRESS CUTTINGS.

THE APIARY AT HOLMES FARM.

Bee husbandry is in full swing at Holmes Farm, Kilmarnock, under the capable supervision of Mr. Joseph Tinsley, the expert on the teaching staff of the West of Scotland Agricultural College. The apiary comprises some thirty colonies of bees, and the stocks have been specially treated for the purpose of resisting disease, especially "Isle of Wight" disease. In consequence of the success which has attended Mr. Tinsley's research work, the Board of Agriculture for Scotland has given liberal support to a scheme designed to provide colonies for beekeepers in those districts which have become devastated. An apiary of over one hundred colonies will in due course be established at Holmes Farm for this purpose. To a number of visitors from Kirkcudbright on Saturday, August 4, Mr. Tinsley was able to show the apiary in full work. It is situated in a sheltered nook with the protection of trees. In the little office adjoining he exhibited samples of honey which had been collected by the colonies lately, in addition to honey produced by beekeepers in the College area. All kinds of appliances were on view, as well as supers and comb honey, and an exhibition hive was in operation showing the queen, brood, and workers. An American honey extractor has been added to the establishment.

Of late the expert's work has been mainly concerned with the resistance of bee disease, and now that so much has been accomplished in that direction, the scheme of the Board of Agriculture will no doubt do much to revive the beekeeping industry in the West of Scotland.—From the *Scottish Farmer*.

PROLIFIC BEES.

Mr. J. B. Howse, of Bishop's Farm, Shurton, Stogursey, has had 13 swarms of bees this season from two stocks. It would be interesting to know whether this constitutes a record.—From the *Somerset County Herald*.

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

BEES IN A BUCKET.

[9066].—I captured a stray swarm some time ago, and having no frame hive they were hived in a bucket, in which they have been working all the summer. There was no bottom to the bucket, but it was placed top downwards and covered with a bag, over which is a board to keep out the wet. Can you tell me how I can take out the honey without destroying the bees, and put them into a frame hive? I know very little about bees, but would like to

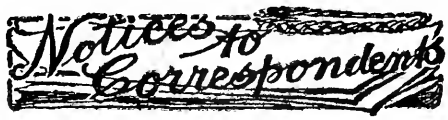
keep these, if possible. — "BUCKET," Warrington.

REPLY.—Your best plan will be to try and winter the bees in the bucket. It is not stated whether it is wood or iron; it will be more difficult to winter them if it is iron. Get a bar frame hive, if possible, remove all the interior fittings, and place the bucket inside on the floor board. Take away the board, the hive roof will keep the wet out, pack all round and on the top of the bucket with sacking or other warm material. If you cannot get a hive use a good-sized box, cut an entrance in one side, close to the bottom, and place the bucket inside, packing as directed. Make the top waterproof by means of a piece of board or a waterproof sheet, or both. Get a copy of the British Beekeepers' Guide Book, and read it carefully, and if the bees survive the winter transfer them to frames of comb next spring, as directed on page 149. Next year join the Lancashire Beekeepers' Association, and you will get in touch with beekeepers near you. You will get full particulars by applying to the secretary, Mr. J. Wildman, Holly Cottage, Forton, Garstang.

AUTUMN FEEDING.

[9067].—I am in such a position, probably like many other bee-keepers, in a very unfortunate position, not being able to feed up my bees for winter, owing to sugar supply being nil. I started keeping bees again last month (after a few years of being without) with a swarm, but after having had them a few days they began dying off with "Isle of Wight" disease. I tackled them at once by using "Bacterol," and am pleased to say they are better, so far as I know. They are scarcely strong enough to be taken to the moors, and another thing it would not be fair to other beekeepers, perchance the trouble was passed on to others in healthy conditions. Now they have about eaten up what honey they had got and I cannot get any sugar. Would the best treacle be any good, or what are other people doing under similar circumstances? With kind regards from an old beekeeper of years ago. C. SMITH.

REPLY.—We have repeatedly replied to correspondents that golden syrup, treacle, glucose, etc., are not suitable for feeding bees. WHITE SUGAR ONLY should be used, and cane sugar is much the best. At present the only way in which it can be obtained is in the form of candy, coloured pink, and medicated with "Bacterol." Any appliance dealer can procure it for you. When syrup is wanted for autumn feeding 1 lb. cake of candy should be broken up and melted with 10 ozs., by measure, of hot water. For spring or summer feeding (stimulative feeding) 15 ozs. of water should be used.



Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

J. E. (Surrey).—*Treatment of late swarm.*—(1 and 2) It is not usual for a swarm to issue so late as August 15, especially after having destroyed queen cells; but it does happen at times in a heather district. The removal, or isolation, of the super would crowd the brood combs with bees, and thus help to cause swarming. (3) We cannot say when the honey flow in your district is over. It will vary with the seasons, and will also depend on the flora. (4) They will be about the same value as driven bees. (5) It will build up for winter if fed plentifully; give them as many drawn-out combs from other stocks as possible, replacing these by frames of foundation if necessary. (6) You did right under the circumstances, only it would have been better to give a few drawn-out combs.

"DERBY" (Derbs.).—*Cleaning queen excluders.*—These should be cleaned with a solution of Fels-Naptha soap and a wire brush. It is a good plan to boil them for 15 minutes, if possible.

F. H. W. (Wednesbury).—*Hive for Carniolans.*—Your W.B.C. hive, holding 10 standard combs, is large enough. See Queries and Replies, 9,067.

"FLOWERS" (Birmingham).—*Flowers for bees.*—You cannot do better than grow early spring flowers such as those you mention. Arabis is one of the best, but it must be the single variety. Both varieties of Alyssum produce a moderate amount of nectar. Candytuft is also visited by bees. Other good flowers are Crocus, Limnanthes Douglasii, Narcissus, Primrose, Wallflowers, single flowers are best for bees.

J. W. B. K. (Kent).—*Sterilising Honey.*—Add a little water, about 3 oz. to every pound, and boil for 15-20 minutes. Be careful not to burn it. When cooled to 100 deg. Fah. or a little less, medicate with one of the advertised remedies.

CANDY (Lincs.).—*Transferring from skep to frame hive.*—(1) We cannot say without examination whether the bees will need feeding after the skep is removed. There should be 25 to 30 lbs. of stores in the combs, and one standard comb when quite full will hold about 5 lbs. of honey, so there should be the equivalent of 6 combs full of honey. (2) No doubt the bees will collect a little nectar, but if they have not already got a fair amount of honey stored they will need feeding. You may feed gently for about 10 to 14 days, then feed rapidly. (4) The candy is not too hard. The sample you sent was in quite good condition. It is, however, better to feed syrup, so that it may be stored in the combs. See Queries and Replies 9067. Messrs. Pascall's address is 100 Blackfriars Road, London, S.E.1.

L. A. PAGE (Chalk).—*Appearance of healthy brood.*—The unsealed larvæ lie curled up at the bottom of the cells white and glistening. There should be no flabbiness or discolouration. When sealed over the cappings should be brown and even in colour, free from perforations, and slightly rounded. The substance you noticed in the cells would be pollen of various colours.

A. STUART BLACKETT (Surrey).—*Smoke affecting sections.*—Too much smoke will spoil the sections by causing them to taste smoky. Use as little as possible. A strong carbolic cloth if left on too long will also flavour the honey. The Rose Day Willow Herb yields nectar, and the light green-blue pollen will probably be from that plant.

W. F. JONES (Anglesea).—*Value of heather.*—All the twigs of flowers, except one, were Bell Heather (*Erica cineria*) which yields a fair amount of honey, but the quality and quantity is not so good as that obtained from the common ling (*Calluna vulgaris*), of which the one other twig was a specimen. If there is any quantity of the heather it will be worth while to move the bees.

ROSE (Sheerness).—See replies to "Candy" and Queries and Replies 9067.

H. FIELDING (Kent).—(1) The method works all right, but is not often followed in this country. (2) You may leave the upper box on for the season. Where this plan is followed the bees are sometimes allowed an extra entrance between the two boxes. If there are a large number of drones the box may be lifted off for a few minutes on a warm day, allowing the drones to fly.

Honey Samples.

T. CROWE (Bolton).—Clover honey, good flavour and colour, but density might be better.

LEICESTER (Bridgwater).—They are both good samples, especially No. 2, and appear to be mainly from clover. 160s. to 170s. per cwt.

S. F. FLIGHT.—Bees are showing symptoms of "Isle of Wight" disease They are a cross native-Italian.

Suspected Disease.

M. T. (Yorks.).—We did not find disease in the bee sent. (2) Not any serious objection. You may leave them.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

August 29, at Lincoln, Boultham V.A.D. Hospital.—Lincoln Horticultural Show.—Honey gift classes, 1lb. extracted, section; prizes 3s., 2s. Help our wounded soldiers.—Banks, secretary, Boultham, Lincoln.

September 5th and 6th, 1917, at St. Andrew's Halls, Glasgow.—Glasgow and West of Scotland Horticultural Society.—For bee schedule apply to Hugh M. Mackie, C.A., 124, St. Vincent-street, Glasgow, Secretary.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

PRIVATE ADVERTISEMENTS.

DELICIOUS first-grade sections, 24s. doz., carriage paid.—NORTH, Cressing, Braintree, Essex. i 46

WALLFLOWERS, Old Gold, Harbinger, Ellen Willmott, mixed, strong transplanted bushy plants; plant now to secure early bee food; 25 1s. 6d., 50 2s. 9d., carriage paid.—CLEMENT, Codmore Hill, Pulborough, Sussex. i 50

FOR SALE, in September, several stocks of bees, on 10 frames, 60s. each. Never had disease in apiary. Travelling boxes must be returned. Wanted, cheap, second-hand copies of "The Honey Bee," Langstroth; "Bees and Bee-keeping," F. Cheshire; "The Honey Bee," Dr. E. Bevan; "The A.B.C. of Bee Culture," A. Root.—NEEDHAM, Hemel Hempstead, Herts. i 58

WANTED, at once, two 4-lb. lots of bees, queens unnecessary; guaranteed healthy.—KNOTT, Biskra, Paignton. i 57

MUST clear, about 30 stocks Dutch and Dutch Goldens, 10 frames crowded, and stores, £2; 8-frame Dutch and stores, 34s.; healthy, carriage extra.—GREEN, The Ferns, Laindon, Essex. i 59

IMMEDIATE DISPOSAL.— One convertible Wells and Queen mating hive, accommodate 6 queens at one time, or used as a Wells hive; also several spare crates for shallow frames and section racks; all healthy and in good condition. No reasonable offer refused.—CROWE, Stawell, Bridgwater. i 60

FINEST Bedfordshire light-coloured honey, in 28-lb. tins. What offers?—W. COBB, Hitchin-street, Biggleswade. i 61

WANTED, one or two lots of driven bees; good price given.—LYTH, Romiley, Cheshire. i 62

TAYLOR'S SWARM CATCHER, uncapping tray, 4 Wilkes' patent regulator aluminium feeders; all unused; perfect; 17s. 6d. the lot for quick sale.—CLARIDGE, Copford Apiary, Colchester. i 63

WANTED, by October, working housekeeper to working man in good position. Out of country preferred; about 55 years of age; well up in management of bees. Comfortable home, large apiary, beautiful country district. Own house and grounds.—Full particulars, E. J. THOMPSON, Apiary House, Gowdall, Snaith, Yorks. i 64

SEVERAL stocks of healthy bees on 10 frames, for sale, 1917 queens; 45s. a lot. Boxes returnable.—OBORNE, Guest-road, Bishopstoke, Hants. i 65

ELEVEN, five and six-frame nuclei, young queens; fed with plenty of "Bacterol" candy; 27s. 6d. each.—VINCENT, 132, Croydon-road, Anerley, S.E. i 66

WANTED, two lots driven bees. State price.—RECTOR, Gislingham, Suffolk. i 67

TO test a new remedy for "I. of W." disease free samples will be sent to the first fifty (50) bee-keepers who send me their names and addresses and a penny stamp for postage.—S. H. SMITH, 30, Maid's Causeway, Cambridge. i 68

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

HARDY 1917 Italian queens, pure, fertile, reared in France (see last week's advt.), 5s. 3d. each. Mr. F. Temple, Chemist, Eastbourne, writes, May 10, 1917:—"Please send me one Italian queen like the one I had from you before. She did very well indeed last year."—ELLIOTT, "Westfield," Kelvin-road, Ipswich. i 55

FOR SALE, cwt. light Cornish honey, 160s.; 5 dozen 16 to 19-oz. sections, 18s. per dozen; 2 or 3 lots driven bees, 8s. 6d. each.—KNIGHT, Kenwyn, Truro. i 69

HEALTHY driven bees, with young fertile queen, 6s. 6d. per lot, boxes free, carr. paid; spare 1917 queens, 2s. 6d. each.—JOSHUA CREWES, Campfield Apiary, Truro, Cornwall. i 70

FINE large virgin queens from famous disease-resisting strain, 2s. 6d. each.—O. E. MINCHIN, Ivy Cottage, London-road, Greenhithe, Kent. i 27

"ISLE OF WIGHT" Disease permanently cured without loss of bees; solution, 1s. 6d. tin, post free.—PRESSEY, St. Elmo, Coulsdon, Surrey. a 9

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Lieut. T. F. Smallwood, Avenue House, Finchley Lane, Hendon.—R.F.C.

Lieut. Smallwood is a son of our well-known contributor of "Bee Chat," and has just returned from E. Africa, where he took part in eight battles and was wounded.

Lce.-Cpl. A. Chudleigh, Boston Dairy Farm, Hanworth.—Motor Transport.

A DORSET YARN.

Last week's yarn went astray, or was not of sufficient value for publication. It was sent on in time to reach the office by the first post on Monday.

[Up to the present the "Yarn" has not arrived at our office. We are sorry it has gone astray, as so many of our readers look forward to Mr. Kettle's chatty and interesting article.—EDS.]

Our bees are now working the heather which is so plentiful on the east and southern sides of this place; it does not matter whether it is cloudy or bright sunshine, the bees are out and off directly, no hesitating: they know where there is something good, and are off after it. I see that some stocks that have already done three racks of sections are finishing off some that were left unfinished by the others. I have tried several years to get sections of heather, but they will do shallow bars wholly with heather in August, but not sections. They must be filling up the brood chambers very fast at the rate they are working: even the rough, windy days they are over the walls and close to the ground to get out of the strongest wind. To tramp over the heather as I did last Sunday to see them is a very pleasant nature study—three varieties of heather, with yellow gorse and some bracken fern just getting its tinge of colour that comes to it in late summer and autumn, and the bees in such numbers going from flower to flower, all singing the glad song of content, the deep bass hum of the big bumble bee, and the shrill note of other varieties of bees, that seem to be very plentiful this year.

Mr. Young, a near neighbour, who keeps Italians, tells me that the bees collect the nectar in some patches more than others: it is interesting to note this, as these moors are composed of all sorts of subsoils, in places a thin covering of black peat over clay, others have a deep loam subsoil, and in many places white shingle gravel, which when broken up is the very worst for agriculture. This proves that the subsoil has a great deal to do with the value of the crop produced. Apples grown on the same heath soils give a higher colour in some parts of the lines where the different subsoils are to be found, so with the amount of nectar in heather the subsoil adds to, or detracts from, the amount of sweetness.

Beautiful as are these large stretches of moorland, it is not pleasant thinking to the man who loves the land he was born in, to see what at one time was productive fields now for so many years unproductive except to the bees: it is a grave indictment of the owners of the soil that this is so. The land has been in the past a pleasure ground of the wealthy: villages have decayed in many parts of Dorset, large farms, plenty of machinery and horse labour, men, but few wanted, and the best gone off into the towns. I drove through the other week where the cottages on the farms were dilapidated and empty: it brought forcibly to my mind parts of the "Deserted Village": "Ill fares the land, to every ill a prey, where wealth accumulates and men decay. Princes and peers may flourish or may fade, a breath can make them, as a breath has made; but the yeoman peasantry, their country's pride, when once destroyed can never be supplied."

Again I am getting away from the subject of bees. Mr. Walker, the hon. secretary of the Street and Glastonbury Society, writes me on the subject of attractive tins for small lots of honey: he mentions syrup, and, when it has very attractive ones, why not honey? He mentions the present tins as ugly. I agree with him: everything to-day has to be attractive to the eye; the large, clean, attractive dairies in Bournemouth, selling ice creams sweetened with honey, attract the visitors and lure them in to buy. If an attrac-

tive tin with a small quantity of honey was on the market, it would be a better turnover for the bee-keeper; he could put the honey in and close up airtight, it would keep its purity and sell more readily.

Mr. John Knight, of Wolverhampton, sends his small lots out in little composite jars as the large dairies do their cream; he has already found that an attractive appearance readily sells the goods. It reminds me of the town child who came to the farm on a visit, and saw for the first time the milk for tea got direct from the cow; she would not drink it, and said, "At home we get it from a nice clean dairy, not from a dirty cow."

Digressing again! but it will bear out the point of Mr. Walker that we should have attractive tins for small lots of honey to induce buyers of run honey to buy direct from the bee-keeper. At present my friend, Squire Tomlinson, sends his direct to Bournemouth in a milk churn by the hundredweight; the trader puts it in bottles, adds an attractive label, and it is sold at twice and thrice what the bee-keeper was paid for it.

Sections are making 18s. a dozen in the farmers' market hall at Bournemouth; that is an encouraging price for the bee-keeper, but my friends who work for run honey are making a larger turnover than myself. I work wholly for sections. With attractive tins they would make still more.—J. J. KETTLE.

AN EASTERN TRIP.

One must experience the conveniences—and otherwise—of a voyage to the East to appreciate fully the various expressions, of relief and interest, when one arrives at the pivot, or base, from which our armies here are fed nowadays.

During a somewhat lengthy journey after confinement, comprising a long march with kit, terminating in a mile or two on a very fine tram service, one notices small, narrow shops where articles are apparently produced, repaired and sold.

The streets seem generally paved with large flagstones; but the trees, which form such beautiful, tall protection to our comrades in the West, make a bold contrast to the few stunted and twisted growths here, which, however, spread at the top to quite a large umbrella-shape of some 4 ft. thick, making an excellent shelter; of course, they don't quite all adopt this desirable shape. Some very fine specimens of balsams and geraniums were seen in some public spaces, lovely shrubs full of scarlet bloom. As usual, the huts and recreation arrangements are all, and more, than could be expected here, and this is added to by close proximity to the sea, where breeziest dips are plentiful.

Just before starting to write, I was delighted to see some half-dozen of very pretty bees. They seemed to be rather sleek, with one distinct gold band at top of abdomen, and three silver-grey at lower. Can you name them, Mr. Editor? I should imagine they had crossed. They were busy getting moisture from tea leaves and jam tins, etc.

At "Kitchener's Home," a square, open centred sort of building, where nice refreshments are obtainable, the "hall" contained some half-dozen trees which sheltered myriads of sparrows of all ages, and the twitter made one wonder if one had suddenly been transported to an aviary and monkey-house in Kensington Gardens.—A. H. HAMSHAR.

A NOVICE BEE-KEEPER'S FIRST SEASON'S EXPERIENCE.

For several years my husband and I have talked of keeping bees, and thought how nice it would be to get the honey these times, as sugar is so dear and scarce. We have studied various small books on the industry; in fact, looked them up so well to make it wise on our part to leave them entirely alone for a time, as we began to see too much of the worst side of the question. At last we decided to make the bold effort, as there are plenty of fruit and lime trees, also flowers, in our neighbourhood, our first step being to take the BRITISH BEE JOURNAL, and next to join the British Bee-keepers' Society. We visited the secretary for the county, who kindly gave us what advice he could. We found that bees were very scarce this year on account of disease last season, and a large London firm were asking as much as five guineas for a stock! We agreed, however, not to be done, as we fully understand that difficulties arise on purpose to be overcome. Our next step was to drive out in the country in search of bee-keepers and hives. They seemed scarce enough, as there was nothing of the kind between Leyton and Woodford, and no one could give us any hope, as the idea of such a thing was unusual. We soon reached Grange Hill, and saw some hives in a front garden, but there were no bees for sale. The good lady kindly took our address on purpose to do business with us later on should she have more bees than she might want. We then went further on to Epping, but saw no more hives, until coming back another way through Buckhurst Hill a lovely sight met our view, a well-kept garden with five newly-painted

and evidently spring-cleaned hives. Our interview with the owner proved a success, and on May 2 we were the happy possessors of our first colony of bees in a W.B.C. hive. Our secretary kindly came and examined them, and found they were quite healthy and strong. We found it a little tiresome not being able to look at them often as one does other stock. I was very anxious to get my first sting, just to feel like a real bee-keeper, which, of course, came in due time. We found it a great interest to the children, watching the bees outside the hive on a sunny day, especially when drones were on the wing, as it made us know that swarming time must be getting near. At last the exciting day arrived. My husband had left the skep handy for me with several instructions concerning the bees should they swarm in his absence. But, of course, things never happen in real life just exactly as we make our plans; but "all's well that ends well"; and this began and ended very well indeed. My little boy ran down the garden to have a last look before he left for school, and was delighted to see the bees really swarming. It was a lovely day, June 4, and it was a grand sight, the air was alive with bees, and the noise they made tended to make us all quite as excited as themselves, and I'm sure our neighbours enjoyed the fun quite as much as ourselves. The bees were very good to settle in one of our own trees, for which I was thankful; but they went so high up as to render it impossible for me to attempt to take them, so they had to stay there till my husband came home, which happened to be quite early. We then got them down in safety, and hived them in their new home later in the evening. The bees seemed very glad to go in the new home, and did not sting any of us during the process.

Our next adventure was to take an artificial swarm from the first hive, as we did not want to run the risk of losing the cast; but this did not stop them from coming out on their own account, but we managed to hive them back without much trouble. We now began to feel quite successful bee-keepers, owning a small apiary of three hives. As flowers were plentiful, we now thought there was little else to do but watch for honey for our use as well as the bees. In this case we have been disappointed, as the bees seem only to have filled their own combs, and not taken kindly to the sections or shallow frames. Their chief object has been to repopulate the land with bees. The swarm which came out in June sent out another large swarm early in July. We were taken by surprise, not thinking of any such thing again this year. They did not behave themselves nearly so well as at first, as they settled in a large mulberry tree in the next garden, much to my annoyance, just as high up and as far out of reach as they could go. The lady kindly allowed us to get them down, which was done under difficulties, as my husband had to make the journey twice, and then did not get the last little bunch of bees. We left the skeps in the shade in our own garden, and about an hour after the bees all returned to the others in the mulberry tree; they were afterwards secured, and all brushed into the skep, making sure this time that "Her Majesty" was not left behind. We safely hived them in a box with frames until the new hive could be made. The making of the new hives is an interesting part of the industry, and helps to make the boys exact in carpentry.

This now makes us four colonies of bees, which we hope to manage to better advantage next year. The hive that sent out the July swarm also sent out a cast, which was lost to us altogether. We heard that a swarm of bees had settled round a chimney-pot in the High Road, Leyton, but refused to think they were ours. We afterwards were told they had first settled in a neighbour's garden, but our friends, being unacquainted with the habits of bees did not inform us of their visit. We were sorry at them being lost, as we might have hived them back where they came from to make the stock strong for the winter. Thus ends my first year as bee-keeper, but am looking forward to better times next season; perhaps we may avoid too much swarming, and a fair supply of surplus honey may be ours. We enjoy the BRITISH BEE JOURNAL, but quite see there are not two experiences alike. It is certain that bee-keeping gives us a fine lesson in patience, which my husband thinks is seldom found in woman; he also adds, never in a man; but, of course, the saying is entirely wrong, as the virtue is, no doubt, working a little our way.—A. PERRY, Grange Park, Leyton.

THE NEW FOREST BEE-KEEPERS' ASSOCIATION.

HONEY SHOW.

The New Forest Bee-keepers' Association held its first Honey Show on August 22, 23 and 24, at Brockenhurst, in conjunction with the "Arts and Crafts" Exhibition.

There was a large attendance, with a small but good display of honey, also of bee appliances.

Honey sent by members for sale was all

disposed of on the first day, which is encouraging for the future.

Much regret was expressed that the Hon. Secretary, Mr. Bright, was in hospital, due to an accident, and thanks were due to Mrs. Bright who ably took his duties. He also had a "Trophy," including many confections, made with honey, in which much interest was taken, and for which he obtained a special prize.—GEORGE M. SAUNDERS.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

SWARM CONTROL.

[9503] One of the most interesting features of recent seasons is the increasing tendency of bees to swarm. It may be due, as some suggest, to Nature's desire to fill up the big gaps caused by the "Isle of Wight" disease. It is probably also much more characteristic of some of the Continental bees, which are imported in such large numbers in the form of queens, than of the native race.

I cannot help thinking that if the bee-keeping industry is to develop satisfactorily it will be necessary to have this tendency much more under control. We are told that much can be done by giving adequate room and ventilation, but that nothing is an absolute prevention. This is excellent advice which every bee-keeper will agree, especially the latter part of it. But we still lose time, honey, and bees through swarming, and it is discouraging—particularly to those whose work takes them from home all day.

What starts the bees on the swarming track is not, primarily, the need for more room for honey storage, because one constantly finds that they swarm when there is plenty of super room—but more room for brood. The queen does not find in ten frames, some portions of which are required for storage of honey and pollen, a sufficient area for her summer egg laying. In this country all seem to have adopted the ten-frame hive as a standard, and no doubt it is the most convenient size for ordinary seasons of the year. But ought not the brood chamber to be capable of expansion before and during the swarming season? Some advocate frames below the brood nest both for use for brood or surplus honey, and also for ventilation purposes. Many people adopt doubling, which practically consists of putting a second brood chamber on top of the original one and building the supers above the two. This seems somewhat cumbrous and gives the bees the labour of lifting the surplus honey from the bottom of the hive to a considerable height. (I presume an additional entrance direct into the supers from outside has been tried and found unsatisfactory.)

As a compromise, I should think a rack of shallow brood frames over the brood chamber should be adopted as a summer annex to the brood chamber. Over this would be placed the excluder sheet and then the honey supers.

Perhaps some of our more experienced readers will give their views on this question of swarm control. I feel sure it is of first importance to the future of bee-keeping.—H. DYMOND.

STANDARDISATION OF HIVES.

[9504] Nothing strikes the visitor to an average apiary more than the utter lack of uniformity in size, shape, and build of the hives: it being no uncommon thing to find that no two are precisely alike.

It seems to me that, in view of the enforced stoppage of hive making the present time affords a priceless opportunity for developing a scheme for putting an end to this most unsatisfactory and uneconomical state of affairs.

I am convinced (1) that the desired result can be attained wth the help of the B.B.K.A.: and (2) that a standardisation scheme will have to be carried out, if the bee-keeping industry is not to suffer serious inconvenience on account of the very high prices of finished hives, which are bound to rule for some years.

My idea is that the British Bee-Keepers' Association, in consultation with representatives of the County Committees, should choose a certain few of the most useful hives: should number them 1, 2, 3, and so on, and sell working drawings of them for a few pence each.

The firms who normally engage in hive-making would be supplied with working drawings, and, thereafter, buyers of hives would need to specify only the standard number of the hive required.

Needless to say, a buyer of a standard hive would have a cause of action against its maker, if a hive, sold under a standard

number, did not conform in every detail to the drawing issued by the B.B.K.A.

Standard Hive No. 1 should be the hive favoured by the opinion of the majority, and the B.B.K.A. might think it well to publish plans of the suggested types in the columns of your valued paper, and to call upon bee-keepers to express an opinion as to which was the best.

Probably five or six standard numbers would be sufficient at first.

Although, of course, the standard makes would always be far cheaper, not only on account of the fact that makers would know that they were sure of their market, but also that they would be manufactured in large quantities at a time: it would always be open to anyone who had special views to order a special type of hive which, if it proved a success, would be recommended by its admirers to the B.B.K.A. for the honour of having a standard number conferred on it.

The granting of a B.B.K.A. standard number would be a comparatively rare occurrence, and would probably only take place in connection with some hive of quite exceptional and generally recognised merit, but the possibility would have to be provided for, or progress would be barred.

I believe that a plan worked out somewhat on the above lines would be a great boon to many bee-keepers.

At the present time standardisation is well-nigh impossible, as no mere verbal description seems adequate to describe any given hive, and many, bearing the same names, turn out, after purchase, to differ in this or that important respect, thus reducing the attempted standardisation to a farce. It would be very interesting to hear what other bee-keepers think of the foregoing suggestions.—M. C. HARMAN.

COVERING FOR HIVE ROOFS.

[9505] I am confident your correspondent "Mel-Chior," who wrote *re* roofing, has missed a good thing, in avoiding the use of tarred felt. I have done nearly all mine with either "Leatheroid" or "Stoniflex" brands, and the result is simply grand. These are much better qualities than the ordinary common sanded stuff, and it does not cost me more than 9d. per roof. I don't know if you have handled any of it, but expect you have. I put mine on with a turn under the edge of roof and tack from underneath. The beauty of the stuff is that it can be jointed and lapped like slates, so if you happen to have any odd sizes over, you can always use them up. Any good ironmonger would supply it, and it comes in 15-yd. rolls 3 ft. wide, and costs, present day, about 15s. roll.—F. M. CLARIDGE.

A GOOD YIELD OF HONEY.

[9506] I think you may be interested in the following statement of the honey I have got from two hives this year.

I have been a bee-keeper for about 14 years—and very successful—but this year has been a record. I think, perhaps, you could tell me if it is so.

I have taken 14 *full* racks, and now some partly-filled, and have extracted 410 lbs. in all, and have sold it. There are no other bees in this parish, and there is a stream close by. I did not feed them last winter, and they have enough honey now stored for this winter, so they must have collected about 440 lbs altogether. They did not swarm this year.—ISABEL H. W. PIKE.

[The bees have done remarkably well, but it is not quite a record. Your take is an average of 205 lbs. per hive, and this has been exceeded several times.—EDS.]

PRICE OF CANDY.

[9507] I have noticed in your very interesting JOURNAL during the past few weeks that frequent reference has been made to profiteering and the price of honey, and am heartily with your correspondents in the hope that bee-keepers will not be found among those who seek to make of the nation's necessity a time of excessive money-making. It is a great temptation to ask exorbitant prices for honey, but the bee-keepers I know, and they are not a few, will not fall to it.

It is time, however, that a word was said on the other side. Bee-keepers do not wish to be profiteers; neither have they any special delight in being "profiteered." It is true that, for the most part, legitimate reason can be given for the increased cost of bee-appliances, and this the bee-keeper must cheerfully bear. But can it be said that the price which has been charged for candy during the present year is at all a fair one? Is there any legitimate excuse why bee-keepers should be charged 10d. per lb. by Messrs. Pascall for the product?

It is interesting and instructive, not only to compare the price of the article, but also the manner in which it is put on the market, as issued by Messrs. Lee & Son, of Uxbridge, in 1916, and by Messrs. Pascall in 1917. The former in October, 1916, were selling candy at 8s. 6d. per dozen lbs., and each pound was carefully moulded into a wooden case with glass covering, ready to place upon the frames in the bee hive. The latter are now selling at 10s. per dozen lbs., and each cake is simply wrapped in paper, the bee-keeper being left to devise means himself of administering to the bees. In each case, I have been given to understand the cost of sugar would be 45s. per cwt., and it does

not take 112 lbs. of sugar to make 112 lbs. of candy. Of course I may be wrong in my opinion that 10d. per lb. is rather a tall price—there may be other facts of which I am not aware. If so, none will be more ready than I to submit to the price and "grin and bear it."

Perhaps others of your readers are feeling similarly to myself in the matter. It would be interesting to know.—LUTHER BOUCH. President Uxbridge and District Bee-Keepers' Association.

We have received several other letters on this subject, some, we are sorry to say, not so moderate in tone as the one given above.

We quite agree that it is anything but economical to be obliged to use candy for making syrup, and having to pay for the labour of first converting the sugar into candy instead of simply dissolving the sugar—it is a waste of both labour and money—but though Messrs. Pascall would be pleased to sell the sugar, the Government will not allow them to do so. So far as the price of sugar is concerned, they, and no doubt other manufacturers, would be pleased to know where good white cane sugar may be bought for 45s. per cwt.

We sent the Rev. Luther Bouch's letter to Messrs. Pascall, and asked for their comments on it. They have replied as follows:—

To the Editors, BEE JOURNAL.

SIRS,—We have to thank you for the courtesy of a perusal of the letter sent to you by the President of the Uxbridge and District Beekeepers' Association.

The following facts relating to the bee candy supplied by us to bee-keepers will be of interest to your correspondent, and probably to many of your readers:—

(1) We undertook the manufacture at the urgent and direct request of the Board of Agriculture last January, but in accepting the invitation we made the stipulation on our own initiative that the profits, if any, shoud be handed over to the Board of Agriculture to be devoted to such charitable objects as they might decide. Bee candy does not come within the range of our regular manufactures, and we regarded the effort to save bees from starvation as a work of National Welfare. Therefore we made the reservation mentioned.

(2) The prices were, in the first instance, fixed on consultation with the Board of Agriculture, and were subsequently reduced immediately it was found possible to do so. The prices that were fixed originally, by the way, were not higher than those at which the regular dealers were selling at that time.

(3) It was found, when balancing up in June, that a profit of £150 had been made. Notification of this was at once sent to the proper quarter, and the following official report appears in "Hansard's" records of the House of Commons proceedings of August 8:—

"Sir W. Essex asked the President of the Board of Agriculture how much net profit has accrued on the bee candy made by Messrs. Pascall, to what benevolent fund has he directed its disposal, and whether under any suggestion as to classes of recipients?

Sir R. Winfrey: The net profit which has been made on the disposal of the bee candy supplied by Messrs. Pascall, Limited, amounts to about £150. Among various suggestions for the disposal of the money under consideration, is one that the money should be handed to the Agricultural Benevolent Society for the benefit of bee-keepers. I will communicate with the hon. Member before the arrangements are completed."

(4) Since the making of bee candy was started the price of sugar to us has gone up about three farthings a pound, but there has been no increase in the charge to the consumers, who are consequently getting the entire advantage in this respect. Also, unless there is a further rise the price will not be raised, although—in view of all the conditions existing at the present time—it is very close, and no further profit is anticipated.

It will therefore be seen that there can be no suspicion of "profiteering in food" as regards the supply of it to the little creatures, who in turn provide us with a delicious and nutritious article of diet.

We are, Sir, Yours faithfully,

JAMES PASCALL, LIMITED.

PRESS CUTTING.

HONEY V. SUGAR.

The present scarcity of sugar has not unnaturally turned the attention of the public to honey, which down to about three hundred years ago was practically the only sweetening agent which the middle and lower classes, at any rate, in England possessed. It is true that the sugar cane was known as far back as the first century, A.D. It is related that, at the commencement of the Christian era, the Admiral of the Fleet to Alexander the Great made a voyage of discovery in the Indian Ocean, and brought back news of the wonderful "honey-bearing reed" which he found in use among the natives of India. Subsequently, the cane was cultivated in the West Indies and in South America, but throughout the Middle Ages sugar was a luxury used only by the richest classes in Europe.

"It is difficult," Tickner Edwardes writes in his "Lore of the Honey Bee," "here, in the present time, when cane

and beet sugar and even chemical sweetening agents are in constant and universal use, to realise that, from the remotest times down to the fifteenth and sixteenth centuries, there was practically no other sweet food of any description, except honey, in the world; and to estimate, therefore, what a prominent place in the industries of each country bee-keeping must then have occupied. There was nothing else but honey for all purposes, and it is constantly mentioned in the old monkish chronicles and the curious manuscript cookery books that have survived from the Middle Ages."

One valuable effect of the present strenuous time is to throw men back directly on their own resources—to show them not what other nations and the labourers in other vineyards can do for them, but what they can do for themselves. In reverting to some extent to ancestral manners of life, when our own islands, perforce, supplied all our needs, many useful lessons will be learned. Still, it takes time to revive ancient industries, and, notwithstanding the present value of honey as a commodity, it is clear that we cannot all become bee-masters on the spur of the moment. The dealers report that the demand for bees has been so great that at present no more hives are available; thousands of orders for swarms have been sent in, and the British Bee-keepers' Association states that they know of no available stocks for market. Still, the shortage, aggravated by the unfortunate "Isle of Wight-" disease, will be set right in time, and it is to be trusted that Great Britain may again become an important centre for the production of honey.—From the *Yorkshire Weekly Post.*

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

MISS TURNEY (Bungay).—*Dealing with late swarms hived in skeps.*—Probably your best plan will be to "drive" the bees from the skeps and put one lot to each of the frame hives. If you wish to increase your stocks, take three combs (without bees) from each of the two frame hives, putting in their place as many frames fitted with foundation as the bees will cover. Unite the two lots of bees from the skeps, and hive them on the six drawn-out combs. If the bees need more room add frames of foundation, and if fed they will build them into combs.

D. MCGREGOR (Brockley).—*Transferring late swarm.*—You do not say whether the bees were hived on frames and foundation or not. If so, it is an easy matter to lift them out and transfer to the clean hive, and it may be done any time when the weather is favourable. Put the feeder on now and feed gently, for 10 to 14 days; then feed rapidly until the bees have plenty of stores for winter.

W. J. T. (Harrogate).—*Larvæ thrown out.*—Probably they are drone larvæ. If worker, most likely the bees are short of food.

W. K. (Surrey).—*Drones still in the hive.*—It is not at all unusual for the drones to be allowed to live so late. If the queen is there the bees are all right. Up to the present only a few of our own stocks have slaughtered the drones.

We shall be pleased to have your account. Any information on the subject is valuable.

H. WRIGHT (Market Rasen).—*Bees eating fruit.*—The reason is that nearly all the nectar-producing flowers are over, and the bees will collect sweets from any source they can. The skin of the fruit has been broken by birds or wasps, or has cracked owing to the wet weather. The juice will do the bees no harm.

VERACITY (Wexford).—*Treatise on foul brood.*—It was not issued in book form. You will find it in the Guide Book in the chapter on "Diseases." (2) It need not be sterilised for your own use. (3) Yes; but it needs boiling for a long time—at least 30 minutes.

A. E. FRENCH (Twickenham).—*Time to remove supers.*—Take them off any time now. Examine the combs and note what stores and brood they contain. The bees may be stimulated to rear more brood by slow feeding for about a fortnight. At the end of that time, if they have not 25 to 30 lbs. of stores, they should be fed rapidly until that amount is made up.

T. MILLER (Watford).—*Transferring queries.*—(1) Better winter the bees as they are, and transfer to frame hives next spring. (2) You must continue feeding the casts until they have enough stores for the winter; feeding should be finished by the end of September. (3) Leave the bees in the skeps till spring. The best way is to put the bees over standard frames fitted with foundation as detailed on p. 149 of "The Guide Book." (4) You will not be able to extract comb that is not in frames. Fit the frames with full sheets of foundation. (5) Two teaspoonfuls to a pint of water. (6) The hives *may* be safe after being unused for six years, but it will be advisable to disinfect them rather than run any risk. (7) The only way to catch the queen in a skep is to "drive" the bees until the queen comes out. The bees would kill any queen, young or old, introduced without removing the old one.

ALLIN (Birmingham).—(1) Bees will eat any honey they can get at. (2) Honey improves in flavour if left on the hive. (3) We should say so; but you do not say what variety it is. (4) One of the humble bees, probably *Bombus ruderatus.*

X.Y.Z. (Worcester).—(1) We cannot say without seeing it; probably propolis or pollen. The dark and hard substance in the cells will be pollen. (2) It means exactly what it says, and only refers to honey that is extracted before it is sealed over. It would be an expense, and it is much better to leave the honey in the hive until it is ripened and sealed. It will not only keep better, but will be better in flavour.

M. PISUET (Horsham).—See reply to "Novice" under "Suspected Disease."

MISS I. P. CHASE (Harborough).—You do not say the type of hive. If a W.B.C. hive about £4. If a cottager hive 8s. to 10s. less.

M. D. (Frome).—(1) The A.B.C. and X.Y.Z. of Bee-keeping. (2) Students are received at the Studley Horticultural College, Studley, Warwicks.

A. B. C. (Llandudno).—See last week's issue, Queries and Replies, No. 9067.

J. B. (Derby).—See last week's issue, Queries and Replies No. 9067, and Notices to Correspondents, reply to J. W. B. K.

AMATEUR (Edgbaston).—It is not advisable to do as you suggest; the bees would probably not cluster in the empty space.

A. F. (Gillingham).—(1) We cannot say; it is not possible to give a reason for everything bees may, or may not, do. (2) You might have given her a little longer time; the bad weather had most likely hindered her from mating. (3) Probably the disturbance of the hive. (4) No, there is no such period with a bee; she may be frightened or challenging a rival.

Honey Samples.

BURNT OAK (Herne Hill).—Lime and clover; good quality and very nice flavour. £6 per cwt.

G. E. H. PRATT (Shrewsbury).—Clover and mixed sources. The quality is excellent.

LEICESTER (Bridgwater).—The prices given last week were a misprint, and should have been £6 to £7, not 160s. to 170s.

Suspected Disease.

NOVICE (Rugby).—The trouble is "Isle of Wight" Disease. Feed with syrup medicated with one of the advertised remedies. A good plan is to extract all the honey, add about 3oz. (six tablespoonfuls) of water, boil for 10 minutes. When cool, medicate and feed back to the bees.

HENRI (W. Kirby).—The bees were too dry for diagnosis.

Bee Shows to Come.

A nominal charge of 2s. 6d. is made for notices (not exceeding 7 lines) in this column, 10 lines charged 3s. 6d., up to 15 lines 5s., which covers cost of insertion from order till date of show. Cash should accompany orders for insertion.

September 5th and 6th, 1917, at St. Andrew's Halls, Glasgow.—Glasgow and West of Scotland Horticultural Society.—For bee schedule apply to Hugh M. Mackie, C.A., 124, St. Vincent-street, Glasgow, Secretary.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1d. per word as "Business" Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

TO test a new remedy for "I.O.W." disease free samples will be sent to 100 bee-keepers who send me stamped, addressed envelopes. The sample is sufficient for one colony only. Do not try to relieve more, as the dose has been calculated after many experiments.—S. H. SMITH, 30, Maid's-causeway, Cambridge. i 72

2½ CWT. light English honey, 180s. per cwt., f.o.r., sample 1lb., 1s. 1d. post free; 7 doz. well-filled sections, 20s. per doz., f.o.r.—HULL, Bee-keeper, Barrow-on-Soar, Leicestershire. i 73

FOR SALE, about 8 cwt. of splendid Hampshire honey, clover and sainfoin, in 28-lb. tins, 140s. per cwt.; samples, 4d. Cash with order.—T. NORRIDGE, Eastern House, Anna Valley, Andover. i 74

WANTED, honey extractor, with lids and gearing, to extract Standard and shallow combs.—HOLT, Axholme, Oxton, Birkenhead. i 75

9 stocks at Winchester for sale, mostly Dutch, 4-in. Abbott's W.B.C. hives, 55s. each; 5 in new hives, by Lee, 50s. each.—ILLINGWORTH, Winton Lodge, Shirley, Southampton. i 76

FOR SALE, healthy stocks of Dutch bees, on 10 frames; £2 each. — RECTOR, Donhead St. Andrew, Salisbury. i 77

10 6-frame nuclei, young queens; fed with plenty of "Bacterol" candy, 27s. 6d. each.—G. VINCENT, 132, Croydon Road, Anerley. i 78

SURPLUS queens, Dutch cross, and other crosses, 5s. each.—FRASER, 13, Manse-road, Markinch. i 79

1 CWT. this season's honey, 130s., carriage paid.—ROYDS JONES, Buckland Newton, Dorset. i 82

PRIME extracted clover honey for sale, 14 or 28-lb. tins, 168s. per cwt., free delivery; sample 6d.—DAVIDSON, Byrkley-street, Burton-on-Trent. i 83

WANTED, first quality honey, 1s. per lb., in bulk.—NEVILLE & GRIFFIN, Slough, Bucks. i 80

WANTED, samples of first-class clover honey; also driven bees, healthy.—Price to WARD, Deeside Nursery, West Kirby. i 81

WHITE CLOVER sections, 12 for £1, carr. paid.—J. W. HALL, Frowlesworth-hill, Lutterworth. i 84

FOR SALE, 4 strong stocks of bees, on 5 to 8 frames, 20s. to 30s., no disease, carriage extra. Travelling box must be returned.—WRIGHT, Waterworks, Sutton Poyntz, Weymouth. i 85

WANTED, good heather sections.—State price and quantity to MANAGERESS, St. Ann's Café, St. Ann's Street, Manchester. i 86

FOR SALE, fine quality sections, also screw-cap bottles.—S. LITTLE, Middleton, Belford, Northumberland. i 87

BEES for sale, 5 good healthy stocks, on 8 frames, 42s. each.—E. BOOBIER, Old Babell, Swansea. i 88

FINEST Bedfordshire light-coloured honey, in 28-lb. tins. What offers?—W. COBB, Hitchin-street, Biggleswade. i 61

SEVERAL stocks of healthy bees on 10 frames, for sale. 1917 queens; 45s. a lot. Boxes returnable.—OBORNE, Guest-road, Bishopstoke, Hants. i 65

BUSINESS ADVERTISEMENTS.

"ISLE OF WIGHT" Disease permanently cured without loss of bees; solution, 1s. 6d. tin, post free.—PRESSEY, St. Elmo, Coulsdon, Surrey. a 9

1917 IMPORTED Golden Italian Fertile Queens, 5s.; specially selected, 8s.; regular supplies until end of season.—GOODARE, New Cross, Wednesfield. i 38

BEES, driven first week in August; now on 5 drawn-out combs, with brood, young queens 15s. each.—L. W. MATTHEWS, 25, Cray-road, Crocken Hill, Swanley, Kent. i 71

SEASONABLE HINTS.

All supers should now be taken off except possibly where the bees are working on the heather. The super clearing board should always be used for this purpose, and the shallow combs be extracted as soon after taking off as possible. If the clearer is placed in position in the morning, the super may be removed and the honey extracted in the evening. The clearer should have a hole near the edge. It is usually about 1 in. in diameter, and may be opened or closed by means of a tin slide. If the board is left on the hive, the combs, after going through the extractor, may at once be replaced, and the hole opened, thus allowing the bees access to the combs, which they will clear of the honey still adhering to them. When this has been done, say, in about 12 hours or a little longer, the hole is closed again, and when the super is clear of bees, it is taken away, cleaned, and stored ready for another season. In the case of sections, those that are saleable are cleaned from bits of wax, and propolis; others that may be only partly filled should be extracted and the combs saved to use as "bait" for enticing bees into a rack of new sections next season. All empty combs should be stored in a cupboard if possible, or wrapped in a newspaper, with a couple of balls of naphthaline among them to keep away moth. The saleable sections should be cleaned, and, if not sold at once, wrapped up in paper in half dozens, and stored in a dry and dark cupboard, or other place where the temperature is fairly even, to prevent granulation. Exposure to light, and fluctuations of temperature will cause honey to granulate in a very short time.

The bees should be examined, and any colonies that need requeening should have the matter attended to at once. If the queen of any colony has ceased laying, a little thin syrup as used in the spring should be given. If a bottle feeder is available use it, giving the bees access to two or at most three holes, or give about a half-pint of syrup every other evening. Stimulative feeding should not be carried on later than about the middle of the month, and if there is a fair amount of brood need not be done at all. For winter stores each stock should have from 25 to 30 lbs. of honey stored and sealed in the combs. If they have not that quantity they should be fed rapidly after the stimulative feeding is finished. Thick syrup should be given, warm, and as fast as the bees will take it down and store it. Do not on any account be tempted to extract honey from the brood combs, and feed sugar syrup in its place; remember that honey is the natural food of bees, and far better for them than the best and purest cane sugar than can be procured. Where several stocks of bees are kept, some may not have enough stores, and others may have more than they need. In that case an exchange of combs will be beneficial, taking from the overstocked for the benefit of the others, only be careful that all are healthy. For a guide as to the quantity of stores, a standard comb, when well filled, will hold about 5 lbs.

Great care must be taken now not to do anything to cause robbing; removing supers, and returning them to be cleaned up, and feeding, should be done in the evening. Do not leave honey, or syrup exposed, and the bee-house, or other room where extracting, etc., is carried out, should be bee proof. Do not leave bits of comb about the apiary, even if they contain no honey. A very little thing may start an orgie of robbing, and consequent loss of bee life; but stopping it is a different matter altogether. Hive entrances should be reduced; the extent will depend on the strength of the colony, for strong ones about 2 ins. Those that are weaker half that width. If robbing should commence close the entrance to one bee space, paint the alighting board with a strong solution of Izal, or carbolic acid and water, except a couple of inches round the entrances, rear a piece of plain glass in front of the entrance, or a handful of dried grass may be placed loosely in front of it, or soak a piece of sacking in the solution and hang it along the porch so that the lower edge is within an inch of the alighting board. See that there are no cracks through which the robbers may gain access to the interior of the hive, paying particular attention to the ventilating holes in the roof. It may be necessary to spray or paint the carbolic solution along the joints of roof or lifts and the body box.

Other work will consist of getting the honey ready for market, cleaning up the appliances not needed again this year, and storing them away, uniting any stocks that are too weak to stand the winter. There should be at least seven combs crowded with bees. It has been truly said the best winter packing for bees is—bees.

Those who are wise will already be calculating what they will require next year and placing their orders in good time. There has been much trouble and delay in getting goods this season, and many have been disappointed. Labour and materials are both scarce and expensive, and there is not much prospect of any improvement

at present, so give the manufacturer a chance to get your order in hand during the comparatively slack time of winter. Sections may possibly be even more scarce next year than this, unless the "powers that be" allow them to be imported; it will therefore be advisable to concentrate more on working for extracted honey next season, and place orders accordingly.

REVIEW.

A Thousand Answers to Bee-keeping Questions, by Dr. C. C. Miller (published by the *American Bee Journal*, Hamilton, Illinois, U.S.A.). The writer is the well-known veteran bee-keeper, who for 22 years has answered questions of subscribers in the *American Bee Journal*. During that time he has dealt with upwards of ten thousand, and is still "going strong," for month by month one finds his sage replies to every conceivable question, and his answers are a model of practical knowledge. There is hardly another man who could, in so capable a manner, deal on all subjects connected with bees as he does, and in this book his long experience is at the service of the craft. The book is a compilation of one thousand of the questions on every conceivable subject, and the answers are written in that pleasant, chatty style with which his readers have become acquainted.

Although Dr. Miller has attained the age of 86 years, he keeps wonderfully healthy and cheerful, and the vigour of his replies even now is remarkable. The compilation has been admirably made by Maurice G. Dadant, and the selection is arranged in alphabetical order, the object in view being to give information on special subjects, perplexing to bee-keepers and not generally found in the usual bee literature. The book is full of wise advice. We will take only one as an example, and, if we turn to page 23, we find the subject title "Beginning in Bee-keeping." The question, quite a common one, asked is, "I would like to know the best possible way to commence bee-keeping the coming season." What could be more appropriate than Dr. Miller's answer? "Take my advice and don't wait for the coming season, but begin now, getting a good book on bee-keeping and studying it thoroughly. That's the way to begin, and by the time you have done that you will know plenty well the next step. Begin with two or three colonies, so that you may learn as you go."

Several methods of Increase are given, also several methods of Swarm prevention, Queen rearing, Queen introduction, etc., all with variations. Every conceivable subject has been treated, and the book, which consists of 280 pages, with several illustrations, is not intended to supplant existing text-books, but rather to supplement them. We are much pleased with the work, and see that it is offered only in combination with one year's subscription to the *American Bee Journal*, for two dollars, post paid to this country.

A DORSET YARN.

"What would you plant for food, so that bees should do well, and be profitable?" A query put to me last week; before I could answer, I had to put a few questions to them: where they lived? and what trees were in their neighbourhood? The first was easy to answer, but the second, they really did not know what trees were plentiful round their home.

That some localities are better for bee-keeping than others is well known. For preference, the rich farming lands, with large plantations to break the wind, seem to be the best; yet I have known bees do well in exposed positions. This village is partly on high land, exposed to south-west winds from over the tops of the Purbeck Hills, it slopes to the valleys and brook where the rich pastures for dairy cattle are full of clover, and the woods are full of chestnuts, which bloom when the hives are well crowded with bees, winds make it very hard work for them to get out and back. I have seen them at night drop before the entrance, and rest before they go in with their load, where on calm days they hurry in at once.

When the "Isle of Wight" disease came over this district, all the bees in the valleys "went west," only those on the hills escaped (that is in this village). Those who have leisure and can keep bees as a hobby can choose their localities; let them choose a good one, and good results are sure to follow, though some years are better than others. The query was not an easy one to answer, because of the things one would plant, some would take such a time to grow. If the land is one's own freehold, such trees as limes and chestnuts could be planted, but these would be about 20 years before there would be much food for bees; so smaller, and earlier blooming things would have to be sown if one wanted to add to the honey flow: a good sowing of the Brassica family, such as cabbage, kale, and sprouts, with turnips and swedes, let all run up to seed; this seems to give the most food at one time. Plenty of thyme and sage, of the Labiate family, all these would give results in one year; the flowers one plants for commercial uses are not very rich in bee food, and there are not very many of them as compared with the things that grow wild.

Writers in the B.B.J. tell us of trees in other countries that produce abundance of nectar, but they do not state how long a season they bloom, that is, of course, the most important. Things like the clover, that will bloom from May till the frost comes (there is plenty of white Dutch in bloom now, and there is plenty of red in large fields which will soon be cut a second time), but one scarcely sees a bee on it now, the common ling heather has all the attraction.

To plant, or not to plant, that is the question. Certainly plant; but what? It depends on what the different localities lack, and plant largely if it is intended to follow it up year after year, it is the man who sticks to it that is successful in the end with all other occupations; especially is this so with bees. I know of one small farmer who, like myself, was at one time a head gardener in the princely demesnes of the wealthy, who was, and is, most successful in his holding; early and late he labours in his fields, and among his stock; he knows what the land should produce, and he improved his fields till he got the maximum out of them. A year or two back he asked me to speak for him for extra land, and in order to prove he had capital to work more land, he showed me his pass book from the bank. It showed £1,300 saved in 11 years. Of course he got more land, but those other smallholders round him, who did not do so well, were very envious of his success. It was sticking to it early and late one day, and every day; so with the bees, experience tells one what they require, give it to them at the right time, do not give up because of poor results in one season, try to do better the next season; a failure sometimes is good teaching, I have found it so in horticulture; when once I failed in a crop in a season I took care another year to have it a success. Apart from profit bees are a wonderful object lesson of work for the common good. Many of them store away honey for food early next season, though they themselves will be old and worn out with labour, and may not eat any of it, but it will be for the new race to feed upon, and be strong when flowers are plentiful. What a lesson of unselfishness! no individualism in the hives.

I see the late swarms are working very hard (when it does not rain), many carrying in pollen, but they have ceased the loud hum of evensong, very few outside the last thing one looks round, as they used to be on the warm evenings.

The demand for section honey is still great, and the prices at the farmers' market hall in Bournemouth, reached 1s. 10½d. per section; run honey in 1 lb. and 2 lb. bottles at 1s. 6d. per lb.; these prices are most remunerative to the bee-keeper, and a source of gratification to us who are shareholders in the Farmers' Co-operative Movement. Eggs reached 3s. 5d. per dozen in the same market, so if the bee-keeper has a mixed holding, he will have remunerative prices for his goods.

As the weeks go by many readers of the B.B.J. write me most delightful letters of the pleasures they find in keeping bees: if they will only write such letters to our editors for publication, the B.B.J. would be still more educational and entertaining, for some of the letters have most beautiful phrasing, a great wealth of adjectives, all showing that the love of bees makes one a lover of Nature, and the wealth of treasures that are stored in this beautiful land we all love, all proving to the simple tiller of the soil that "one touch of Nature makes the whole world kin." Were it not for my adherence to bee-keeping, the simple socialist of Dorset would not have nearly so many inspiring and beautifully written letters.

This week, when weather is such that the bees can get out to gather food, I notice they are working the golden rod, correct name Solidago, and the perennial asters, or, as they are called, "Michaelmas Daisies." Among the wild flowers is one called the Figwort, a peculiar flower which grows very luxuriantly by the side of wet ditches, 4 ft. high; the willow herb is still a great attraction. I saw some growing in Branksome Park, one of the beautiful parks of Bournemouth. Its fine flowers were covered with bees, though ling heather was very abundant in the same locality. For the first time in my life I saw the Michaelmas daisy growing wild in a field close to the famous sand banks of Poole Harbour.

J. J. KETTLE.

HELP FOR RETURNED WOUNDED AND DISABLED SOLDIERS.

With your kind permission and help I should like to start a scheme for the benefit of returned wounded and disabled soldiers in this deradful war.

Namely by presenting a strong stock of bees and good hive delivered carriage paid to any address in England, together with a book on bee-keeping and a copy of the BRITISH BEE JOURNAL.

The bees to be sent on your recommendation to deserving cases.

If you will undertake this part of the work, I will forward you, say, 2s. 6d. as my share of expenses that may be incurred by you in postage, etc.

The bees to be sent off early next spring in travelling box (to be returned). The hive to be sent separate by same train.

The book on bee-keeping and copy of the BRITISH BEE JOURNAL should be sent in advance.

If other kind bee-keepers who can spare a stock will do something on the same lines a good work will be accomplished.

Do what we can, we shall never be able to fully repay those brave lads who have been and are now fighting for us in various parts of the world.—W. ION, Eastfield Apiary, Healing, Lincs.

[Mr. Ion's idea is excellent, and needless to say we will be delighted to do what we can to help; we would suggest that sailors be also included. This may probably be intended to be taken for granted, but it is well to also mention our brave sailor lads.—EDS.]

KENT BEEKEEPERS' ASSOCIATION.

On Saturday, August 11, a meeting of the above was held in the Apiary of Mr. G. Bryden, in the grounds of Alderman Featherby, at Gillingham. The latter gentleman has always taken an interest in and helped the craft considerably, as also did the late Mrs. Featherby, one of the most proficient and successful lady bee-keepers in Great Britain; her place has now been taken most ably by her daughter.

Situated in a disused chalk pit of ample proportions, dotted here and there with shrubs, the apiary of about 40 stocks is a model of what an apiary should be, and is a credit to its owner, one of the pioneers of the present flourishing Kent Beekeepers' Association, and a most energetic worker in connection with it. In spite of the demands of a large business he finds time not only to carry on his own apiary, but helps members up and down the county considerably.

The audience numbered about 40, and the lecturer was the popular secretary, Mr. G. W. Judge, his text being "Nurturing Bees," and most ably did he deal with the subject, the audience being most appreciative.

At the close of the lecture a very hearty vote of thanks to the lecturer was proposed by Mr. W. Herrod-Hempsall, who said he had listened with great interest to the lecture, which was very lucid, not a single detail being omitted, and he advised the audience to carry out the sound advice given, when all that was humanly possible would have been done to secure the successful nurturing of their stocks.

A hearty vote of thanks to Alderman Featherby for the use of his grounds, and to Mr. Bryden for the use of his apiary, brought a most interesting and profitable meeting to a close.—(*Communicated.*)

KENT HONEY SHOW.

SUCCESSFUL EVENT AT WYE.

The thirteenth Kent Honey Show was held in the Gymnasium of the S.E.A. College, Wye, on Saturday, August 11, and was in every way a success, the exhibits being of excellent quality and the number of visitors large, every part of the county being represented.

The efforts of Mr. H. G. Chapelow had instigated the revival of the exhibition.

E. Lepper, the secretary, by his organising ability, brought the show to a successful fruition, assisted by Messrs. P. F. Kendall, C. H. Hart, A. Mills and J. Tippin as the committee. Among the many influential visitors were the Rt. Hon. Laurence Hardy, M.P.

The organisers were fortunate in obtaining the services of Mr. G. Bryden and Mr. W. Herrod-Hempsall, as judges.

Principally, perhaps, the show demonstrated the good work of the Association in re-stocking (after the devastating epidemic of the "Isle of Wight" disease), and the enthusiasm with which bee-keeping is now being taken up augurs well for its future in the county. One could scarcely fail to be impresed, either, with the multitudinous uses to which honey could be put. It can be used for practically every purpose where sweetening is required, jam making and pastry, for instance. There was also a quantity of excellent mead, that good old English drink, which, in view of the beer problem and the shortage of cider, should come into its own again. Could the shade of King Alfred have appeared at Wye on Saturday, the goodly mead would surely have made him feel at home.

"King Alfred was at Wantage born,
He drank out of a ram's horn."

A ram's horn of mead on a hot August afternoon would have been a gift of the gods!

There were also toothsome toffees made of many varieties—glutinous enjoyment that attracted the juveniles more than anything else, and also a special display of honey-producing flowers, gathered by the youngsters.

Besides these exhibitions of bee products, there was a special section devoted to appliances and the scientific aspect of bee-keeping. Mr. McCowen Hall, of Tenterden, showed a most interesting exhibit, giving sections of the queen bee cell, and explaining the process of feeding with the royal jelly. During the afternoon the two judges gave valuable demonstrations in the spacious "quad."

THE PRIZE LIST.

The prize list was as follows:—

Six 1-lb. sections of comb honey and six 1-lb. glasses of run or extracted honey.

—1, John Trendell, Harrietsham; 2, T. Head, Canterbury.

Six 1-lb. sections of comb honey.—1, John Trendell.

Two standard or shallow frames of comb honey for extracting.—1, John Trendell; 2, E. D. Till, Eynsford; 3, J. T. Head, Canterbury.

Six 1-lb. glasses of light run or extracted honey.—1, C. Bishop, Sittingbourne; 2, A. J. E. Baker, Dover; 3, C. H. Hooper, Wye; 4, A. E. Barnes, Anerley.

Six 1-lb. glasses medium run or extracted honey.—1, John Trendell.

Six 1-lb. glasses dark run or extracted honey.—1, A. Lepper, Wye.

Three 1-lb. glasses of run or extracted honey.—1, C. Bishop; 2, J. Mepham, Hamstreet; 3, F. Blackett, Hinxhill.

Two 1-lb. glasses of run or extracted honey.—1, J. Mepham.

Beeswax (about 1 lb.).—1, F. Harris, Sibsey; 2, John Trendell; 3, J. Pearman, Derby.

Mead.—1, J. Pearman; 2, S.E.A. College, Wye.

Bee Candy.—1, A. D. Davidson, Petworth; 2, John Trendell.

One 1-lb. glass of granulated honey (any year).—1, J. Pearman; 2, C. Bishop; 3, C. Hanslope, Bocock, Newmarket.

Cake, sweetened with honey.—1, E. Padgham, Rethersden; 2, Mrs. Hailing, Wye; 3, J. Gladding, Bingfield.

Best and most attractive display of bee products, including honey, wax, mead, and vinegar only.—1, J. Pearman; 2, S.E.A. College; 3, T. Head.

Twelve 1-lb. glasses of light run or extracted honey.—1, R. W. Lloyd, Thetfold; 2, J. H. Oldfield, Rotherham; 3, W. G. Chandler, Saffron Waldon.

Six 1-lb. glasses of medium or dark run or extracted honey.—1, John Trendell; 2, F. Harris.

Three 1-lb. sections of comb honey.—1, A. H. S. Page, Woolpit, Suffolk; 2, F. Harris.

One 1-lb. glass of light run or extracted honey.—1, A. E. Barnes; 2, J. H. Oldfield; 3, A. H. S. Page; vhc. A. Lepper; hc., John Trendell.

One 1-lb. section of comb honey.—1, A. H. S. Page; 2, A. Lepper.

Best exhibit of bee appliances.—1, T. Head.

Six 1-lbs. of run or extracted honey, put up in short bottles.—1, T. Head; 2, A. Lepper.

Best six photographs of bee life.—1, H. C. Chapelow, Wye.

Three 1-lb. sections of comb honey and three 1-lb. glasses of run honey.—1, C. Bishop; 2, T. Head.

Best display of cut flowers visited by bees for honey or pollen.—1, Walter Lepper; 2, Martin Austin; 3, Florrie Pennells; 4, Norton Austin; 5, George Harling; 6, Austin Brice.

Mr. John Trendell won the cup presented by Sir Robert Filmer for the best six 1-lb. sections of comb honey and six glasses of run honey, also the cup presented by Sir Marcus Samuel for six 1-lb. sections of comb honey. Mr. C. Bishop was the winner of the cup presented by the Earl of Guildford for six glasses of light honey. The President's cup for the best display of bee products was secured by Mr. J. Pearman, and Mr. R. W. Lloyd won the trophy given by Wye Trade for twelve glasses of light honey.

Besides the honey, the Wye Cottage Gardeners exhibited an interesting little collection of vegetables, which were subsequently handed to the V.A.D. Hospital.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

DO BEES STEAL EGGS?

[9508]. With reference to "Do Bees Steal Eggs?" I think it was in 1913 I had a very clear case of it. After having had my suspicions aroused the previous year in another stock, the history of the stock which convinced me that bees will steal eggs was as follows. Queenless for a month, one day following week I was going to introduce a queen, but by chance again examined brood box, all brood hatched, of course, but a newly-formed queen cell, with grub well developed. I thought this was a case of a laying worker egg, so out of curiosity did not put in new queen but left cell and closed hive. In due course queen hatched, mated and became a very good laying queen.—A. H. E. Wood.

INTRODUCING QUEENS.

[9509]. No more failures!

The following is the easiest, quickest, and surest method of successfully introducing queens. It is the only method I have used during this season, and I have not a single failure to report out of about

50 queens introduced. First, examine the stock to be requeened; find and remove the old queen, then lay the quilt over the frames. Have your new queen to hand, also some honey of not too thick a consistency, fill an egg-cup full and place your young queen in the honey, carefully, so as not to damage her, then draw the honey all over her until she is literally drowned in it. Now remove the quilt from the frames, use a little smoke to drive the bees back, then *pour* the queen and honey on to the top of a frame; she will quickly right herself and crawl slowly down between the combs, then follow her down with the rest of the honey out of the egg-cup and close up the hive as quickly as possible.

Examine the stock in five or six days' time, and if she was a laying queen you introduced you will not fail to find eggs Virgin queens are just as successfully introduced in this way, but special care must be taken not to damage the queen's wings in any way. A. H. E. Wood.

'BACTEROL' AND "ISLE OF WIGHT" DISEASE.

[9510]. I am writing this in defence of the veracity of my own statements. J. Valley, in 9500, says definitely that "Bacterol is not a cure for 'Isle of Wight' disease." I have proved most conclusively that it is. Independently of my own stocks, which we treated last autumn, and have given me splendid results, without any recurrence of the disease, I have this summer had nine cases, all of which have been cured absolutely, and are now in the most healthy of conditions; in fact, only last Saturday, Mr. Merchinson, of Fulford, York, called to congratulate me upon the success of my treatment of his bees a few weeks since, and to say they were all perfection. Of course, one medicine does not always have the same effect upon the same disease in different cases, conditions and constitution having a lot to do with it; but after my experience I advise anyone to try "Bacterol" first, as I have not had one failure.

In reply to "Press Cuttings," "The Obliging Bee," of August 16, I think the remarks *re* cure of rheumatism by bee stings are rather too general.

Personally, a hundred bees might as well sting a log of wood as myself, but I have a friend (an old bee-keeper) who would be in bed for a week if he got stung only once or twice; not only that, some bees are more vicious than others, and their poison more virulent; consequently, before placing a bare limb in front of a hive, would it not be advisable for the sufferer to try one sting first, or he might not survive to see the effect of stirring the bees up with a stick as advised.—W. J. Gibbs.

A STANDARD HIVE.

[9511]. I have read with much interest the idea set forth by M. C. Harman *re* standardisation of hives in your last issue. I think your correspondent has touched upon a very vital point to the bee-keeper in general, and I for one thoroughly agree with what he says.

One of the fundamental principles to the successful management of an apiary is to have every hive the same, and interchangeable, whatever the pattern preferred. On this point, I think, every bee-keeper will agree. Take my case, for instance—although I am only a bee-keeper on a small scale. I have one W.B.C. hive and wanted another, and purchased a good second-hand one I heard of, thinking, naturally, I would be able to interchange if required.

This was very far from the case, the measurements differing so as to make it impossible. The hive itself was quite a good one, be it said, designed correctly as regards all other respects.

Now, this does not illustrate the whole of the evil, for I know full well I might obtain another so-called W.B.C. hive and it be different in measurements to either of the others I have. This bad system can be changed entirely, I am sure, by a remedy on the lines your correspondent suggests, and I feel confident that if the matter were taken up by the B.B.K.A., with the help of your valuable paper to make known the plans of the several hives suggested, and the vote of the bee-keepers taken through the B.B.K.A., the whole matter could be put right in a very short time.—Fred. L. Wilson.

[9512]. I am glad to see the Standard isation of Hives question taken up by one of your corespondents. It would prove a boon to many bee-keepers. At present we have various types under the title of W.B.C. Hives; but only a few of them have really interchangeable parts. I entirely agree with your correspondent that a standard size with dimensions acknowledged by all makers and numbered by B.B.K.A., as, say, No. 1 Hive. I further suggest that hives should be made to take more frames, for this reason:—We are told that giving bees room in advance of their requirements is one of the great advantages in swarming control. A W.B.C. hive is at present limited to 10 frames. I would sugest that the No. 1 Standard Hive should be made to take 12, 13, or 14 frames, and bee-keepers, wishing to have either, could order, viz.:—No. 1, or 1A, 1B, or 1C, as the case may be. The hives may be constructed exactly the same, only a matter of how many frames they should contain being classi-

fied by the standardisation number, or letter. So many so-called standard numbers would not be needed, for the W.B.C. would fulfil all requirements. Should any bee-keeper construct a new hive, with special features of construction, that is conducive to non-swarming, or by experience found to be highly satisfactory, it should be standardised by the Association. There is no doubt the "Standardisation" schemes which are working to-day in other spheres will have to come to us bee-keepers before very long. Of course, as your correspondent says, it is well nigh impossible at such a time as this to make them. But now would be a golden opportunity to formulate a definite scheme of standardisation. There certainly seems, to my mind, a great need of reform in the construction of the hives, and they should be more in uniformity with each other.

Apologising for occupying so much of your valuable space.—ERNEST E. BROWN.

PRESS CUTTING.

HONEY AS A PREVENTIVE OF INFLUENZA.

Writing to the "American Farmer," Mr. Frank Benton, of Washington, points out that an effective remedy for influenza is contained in honey:—If a teaspoonful of honey be taken daily and permitted to dissolve slowly on the tongue, one can be tolerably sure of remaining exempt from this disease. Honey dissolved in water and snuffed up through the nose hastens the cure, as I found in my own case two years ago. The cause of this lies, without doubt, in the fact that good honey contains formic acid as one of its constituents, which substance kills the influenza bacillus that develops by preference in the mucous membrane. Of course, the honey must be genuine, for only such contains formic acid. The sweets produced from syrup and resembling honey, and offered on the markets under the name honey, are no preventives against the disease.—From *Farm and Home*.

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

A. E. T. (Edgbaston).—*Adding vinegar to syrup made from "Bacterolised" candy.*—(A) You may add vinegar as usual. (B) No. (C) Yes.

X. O. X. (Essex).—*Insects on bee.*—They are the blind louse (*Braula cœca*) and may often be found in hives, especially in the south of the country, and do not appear to do the bees any harm,

N. BRAMLEY (Sheffield).—*Dealing with unripe honey.*—Extract the honey, and if the bees need feeding let them have it now; do not try to keep it until spring, or it will probably ferment. If the bees do not need it, take it for your own present use. It is fine with stewed fruit, etc. You may leave the combs in the non-swarming box. In any case, do not take them out if there is brood in them.

INQUISITIVE (Hants).—*Cost of starting an apiary.*—You can purchase stocks of bees now for 40s. to 50s., but you would have to take the risk of wintering. What price they will be next spring we cannot say. If there is anything like the demand there was this year it will be high—£3 to £4 for a colony of bees and combs, without a hive, and 20s. to 30s. for a swarm was a very common price. Hives also will probably be difficult to get and will be more expensive than this year. The price will depend on the type, but as conditions are now we cannot give cost. If you can get the wood and make your own hives you will effect a considerable saving of expense,

R. E. WINTER (Ilford). — *Leaving super on for winter.*—(1) The bees will take no harm if this is left on. Better remove the queen excluder, and give a winter passage over the top of the super. You will probably find brood in the shallow combs next spring. (2) It is a matter of individual opinion. Calico is usually considered the best. "Ticking" is also good, and is firmer than calico; but some bee-keepers use American cloth with no apparent ill-effect.

INCA (Cheltenham).—*Late feeding.*—Better feed up with thick syrup from middle of September. We do not care to trust entirely to candy if it can be avoided.

A. M. (Caithness).—*When and how to transfer.*—Leave it until spring. When the hive is becoming crowded with bees—possibly about May—place under them another brood box, fitted with frames and full sheets of foundation. As soon as there are eggs and brood in the new combs

make sure the queen is on them, and place a queen excluder between the two boxes. In three weeks the top box may be cleared of bees and removed. (2) Yes, a little. (3) It is better to requeen. (4) Directly after the supers are removed. It may be done now.

LANHERNE (Cornwall).—*Getting extracted combs cleared.*—There is often a difficulty in getting this done; sometimes giving a space of five or six inches under them will effect it, or putting half the combs in at a time. If these measures fail, run the combs through the extractor again What little honey is left in the cells after that will cause no harm. (3) You cannot do better than kill all the moths and larvæ you see. Keep the floorboard clear of débris of any kind. Do not leave comb exposed anywhere, and always have Naphthaline in the hive.

CONSTANT READER (Barnstaple).—At present prices, candy. No; postage is extra, We are afraid you are not also a careful reader. Both queries were answered in our issue of August 23, on page 267, See reply to C. Smith, Queries and Replies, No. 9,067, and to J. W. B. K., Notices to Correspondents.

Honey Sample.

CLOVER (Liverpool).—The honey is very good indeed. (1) It is clover honey. (2) 1s. 9d. (3) Yes. (4) It would lose very little if done carefully, and only made just hot enough to reliquefy it, using a water bath.

Suspected Disease.

G. PATTERSON (Isleworth).—There is no doubt, from your description of the symptoms, the trouble is "Isle of Wight" disease, You might extract all the honey, add about six tablespoonfuls of water to each pound, boil for 10 minutes, and when cooled to about 100 deg. Fah., or less, medicate with Bacterol or Izal and feed back to the bees. Collect and burn all the dead bees you can, and sprinkle the ground liberally with builders' quicklime. Keep the hive supplied with Napthaline and Apicure.

M. J. NODRAP (St. Austell).—See answer to G. Patterson.

A. F. C. (Kent).—The bees are suffering from "Isle of Wight" disease.

G. F. B, (Honiton).—The symptoms you describe point to "Isle of Wight" disease. There is no need to add more Bacterol. See reply to G. Patterson.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1d. per word as "Business" Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.

PRIVATE ADVERTISEMENTS are only intended for readers having Surplus Stock to dispose of. Driven Bees, Nuclei, and Queens that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WANTED, first quality honey, 1s. per lb., in bulk.—NEVILLE & GRIFFIN, Slough, Bucks. i 80

WANTED, one or two lots driven bees, healthy, without queens. State price.—PATTINSON, Station, Alnwick, Northd. k 16

WANTED, good heather sections.—State price and quantity to MANAGERESS, St. Ann's Café, St. Ann's Street, Manchester. i 86

SEVERAL stocks of healthy bees on 10 frames, for sale, 1917 queens; 45s. a lot. Boxes returnable.—OBORNE, Guest-road, Bishopstoke, Hants. i 65

WANTED, an Abbott's "New Model" W.B.C. hive, without internal fittings, but must be complete with two lifts, waterproofed roof and in perfect condition; one exhibited at the Royal Show preferred.—Particulars and price to EALES, Tiverton, Devon. k 1

WANTED, large breeding cage, for white mice.—Particulars to MOUSE, BEE JOURNAL Office, 23, Bedford-street, W.C.2. k 2

ONE CWT. clover honey, 160s.; tins returnable. —RECTOR, Gislingham, Suffolk. k 3

FOR SALE, 1cwt. prime light-coloured English honey, 140s.—PEARS, 31, Pugin-street, Carlisle. k 4

WANTED, "Roots' ABC of Bee Culture," new or second-hand.—MADOC, Mattishall, Dereham. k 5

STRONG, healthy surplus stocks and swarms for sale next spring; orders booked now.—MADOC, Mattishall, Dereham. k 5

WANTED, first quality honey in bulk, at 120s. per cwt.—LEE, Little Bowden, Burgess Hill, Sussex. k 6

PURE English honey, 14-lb. tin 15s., on rail, or by the cwt.—R. WHITTING, Manea, March. k 7

TWO stocks of healthy bees for sale, 1917 queens, on 8 frames 35s., or 10 frames 42s. each. Boxes returnable.—STANCLIFFE, Middleton, Pickering. k 8

FOR SALE, 4 surplus strong stocks on 10 frames, with brood and stores; 1917 queens.—CHATWIN, 162, Hagley-road, Birmingham. k 9

TO test a new remedy for "I.O.W." disease, free samples will be sent to 100 bee-keepers who send me stamped, addressed envelopes. I have given two years to experimenting at my own expense to find this remedy. It is yours for nothing but a penny stamp to try its efficiency. If it relieves in your case you may send a 6d. P.O. if you can afford it, to enable me to pay for more advertising and supplies to reach other afflicted bee-keepers, but you are not asked to do even that.—S. H. SMITH, 30, Maid's Causeway, Cambridge. k 10

A FEW surplus strong stocks of Italian bees, headed with prolific 1917 queens, heather stores, £3 each, guaranteed healthy. A quantity of very fine clover honey, in 28lb. or 56lb. tins, 160s. per cwt.—CROWE, Stawell, Bridgwater. k 11

FINE Irish extracted honey, well ripened, 156s. per cwt.; samples 3d.—S. CRAWFORD, Apiaries, Castlederg, Tyrone. k 12

THREE fertile 1917 queens, in introducing cages, post free 2s. 6d. each.—ROLLINS, Stourbridge. k 13

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

FERTILE queens from 3s. 6d. each; bees at *Times* price per lb.—PRYOR, Breachwood Green. k 14

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Sergt. H. Jenkinson, 14, Arngask Road, Catford.—2/1 Batt. Hon. Artillery Company.

A DORSET YARN.

A few days of bright sunshine brought out the bees at the Violet Farm in crowds: they still are working in the late charlock. One field I had sown to turnips, and with them has come up charlock, which the showery weather has made grow again after hoeing: it has been a happy hunting ground for the bees, they are carrying in pollen very freely. Have not had time to look and see if they are storing it for early spring feeding, or still using it for young brood; but the pollen is the colour of charlock, even the bees themselves are yellow with it.

I see they are even looking over the flowers of the common fumitory, a weed that has grown liberally in the fruit rows this wet season. I do not know if it is usual for them to be looking over such a number of plants for food in September, unless they are short of food with so much showery weather. Some of the late sections which were taken off last week had a great many of the outer cells cleaned out, as if the crowds of bees had been up in them when they could not work.

On looking carefully over the hives as the bees went in and out, I find quite a lot of them are now sending out bees that are liberally marked with orange, showing that the new queens must have mated with either an Italian or a hybrid drone. Some of the very black ones are keeping their own without any marks, and the wild lot that was brought me by the wood cutters from the woods have kept their colour, as have the two swarms that came out of the tree stump in which they were brought to me. This wild lot are very small bees, quite the smallest I have seen. The smallness of these bees and the swarms from them was noted by a lady visitor (who had farmed in South Africa and came to see the bees at the Violet Farm). I am hoping they will winter well, and then I shall see what they are as honey gatherers. They did not swarm early enough to do much this year.

The most productive hive with me this year did four racks of sections, besides a few that were taken out in May. It was one of the stocks I bought at Wareham; a very large and roomy hive, a brood box of ten frames, no queen excluder, the racks had not a spoilt section, though I had some in another hive where the queen laid a few eggs in the centre sections. It was very strong, and only swarmed once. I was very glad to get it, as it did two racks of very white capped sections, and they are still very strong. Since the racks were taken off they are building and filling cells up to the glass inspection covering, showing they are good workers. This lot are brown in colour, drones black.

There is still a great demand for bees; numbers of visitors that visit the farm to see the fruit are eager to buy the stocks, but I am obliged to tell them that they are so beneficial in the pollination of fruit blooms, they must wait till next summer and have some swarms.

I have had a newspaper representative out to see the farm and the bees. He said he was sent out by his paper for "copy." After he had seen the lines of apples and pears, I gave him a veil, and took him among the bees; some of them had the racks of sections still on. I fancy he thought I was fooling him when I showed him how much they would do in a good season; and when it came to numbers in each hive, he was afraid to put down the figures I gave him, yet I told him no romance or fairy fable, only what was strictly accurate according to text-books. These newspaper men must be very clever to make up a story from a few shorthand notes: he sampled the peaches and nectarines which are fruiting in the apiary; ripened in the sun and wind they have a rich flavour. I hope they did not make him ill, because history tells us it was peaches that killed off the bad King John at Swinestead Abbey. During my long life I have eaten a good many, and have never felt any ill effect after. In Boswell's "Life of Johnson" he records that the greedy man "would eat several before breakfast and again after," and was known to say "that he had never had enough of them but once." All this is

by the way: the newspaper man was very interested in the hybrid bees; the deep orange band on the black abdomen was something new to him (in fact, it was all new to him), these very black bees with the coloured markings are very pretty, more so than the grey-black ones which have the yellow bands. The wild lot in the hollow tree was of particular interest; he wished he had his camera with him; these are very strong and active.

Going back to peaches and the value of bees, Mr. Cowan's pamphlet on Pollination shows how largely peaches are grown in America, orchards of thousands grown together for trade purposes. The grower quoted by him never had fruit until he bought bees, and then the trees bent down to the earth with the weight of it. It is the same with pears and apples at our farm. My neighbours have good crops, but ours are the heaviest, and the most sizeable. Mr. Cowan shows how pears (Williams, Bon Chrétien) come larger when cross-pollinated. The Williams here are colossal in size and the flavour is fine. I planted them in lines with Angoulême and others for pollination. The large stewing pears, which are usually many years before they fruit heavily (the old couplet says, "Who plants pears, plant for their heirs"), are weighted down to the soil with clean, shapely fruit, showing that each seed was perfectly fertilised, and has swollen to its fullest, and the pulpy covering has added more depth and weight. All this, I showed the reporter, was the work of bees, he had thought it was the pruning (they had not been pruned) and cultivation. I had to show him good cultivation would only induce the tree to grow vigorously, but the pollination was the work of bees.—J. J. Kettle.

KENT BEE-KEEPERS' ASSOCIATION.

SHOW AT DARTFORD.

"The largest and best show given in the country this year," such was the universal comment on the fine show of honey at the Westgate Schools, Dartford, by the Kent Bee-keepers' Association on Saturday, August 5, great credit being due to the committee and the energetic hon. show secretary, Mr. A. C. Paulin, not only for the excellency of the staging, but the well-timed programme. Throughout the afternoon and evening a large number of people visited the show, and keen interest was taken not only in the exhibits, but in the various lectures and competitions. The task of opening the show devolved on Mr. A. Dewey, who ably carried out the function, and said that the show they saw before them was the largest they had ever had and it did great credit to all concerned. Ten or eleven years ago, he said, when they had only half a dozen members and met at Orchard House, Crayford, they little thought the Association would grow to the enormous extent of over 460 members. This Association had, he was glad to say, made the most progress of any county association in England, and was the outcome of a small association at Crayford, which, when joined up with Maidstone, Wye and Eynsford, was divided into districts, which included Sidcup, Bromley, Sevenoaks and Erith. They were a go-ahead Association, and were doing their best to increase the interest in bee-keeping. They had had several drawbacks, notably the "Isle of Wight" disease. In this connection he wished to mention their hon. secretary, Mr. Judge's, original scheme, which had been so successfully used for restocking. This had now been taken up by several other associations.

The shortage of sugar had also lent an added interest to their members to attempt to supply honey in its place.

He asked for new members to the Association, and said they were greatly indebted to Mr. Paulin, who had worked so hard at the show and put in an enormous amount of time, which did him and Mrs. Paulin, who had so ably assisted him, great credit. (Applause.)

The show being declared open, a lecture on "Bees as Sugar Producers," was given by Mr. F. C. Hodgson, who, although dressed in khaki, appeared to be quite *au fait* with his subject, and was listened to with interest.

At the conclusion of this lecture Mr. G. Bryden gave an able manipulation of a stock of bees in the playground.

A frame-building competition by members of the Association proved very interesting, after which the judge, Mr. W. Herrod-Hempsall, gave some enlightening remarks on the various exhibits.

The principal room contained two large and beautiful trophies of honey exhibited on tables in the centre of the room. Mr. G. Bryden was responsible for one in which artificial fruit, shells and eggs, made of beeswax of various colours and very fine variety, greatly interested the visitors. The other large trophy was a combined effort of the members. Both trophies were deservedly given awards of merit.

In addition to sections of honey, bottles of honey, photos of bees, cakes made with honey instead of sugar, etc., one of the exhibits which elicited most interest from all the visitors was the utility exhibit in which Mrs. Judge was an easy first with nineteen articles made from honey or in which honey was used instead of sugar. Mr. G. H. Barnes was awarded second prize. Mrs. Judge's exhibit included the

following articles:—Honey fondants, stewed fruit, honey, black currant jam, lemon cheese, milk pudding, gingerbread, custard, apple-jelly, lemonade, honey cakes, table jelly, tooth paste, furniture polish, ointment, mead, vinegar, cough mixture, and beeswax. Mr. G. H. Barnes' exhibit consisted of honey vinegar, mead, tonic mead, furniture cream, marmalade, tooth paste, cold cream, raspberry jam, beeswax, and candles, the latter item being greatly admired.

In one of the class-rooms a stock at work in an observatory hive, home-made appliances, bee eccentricities, and a honey-testing competition proved of great interest. An excellent tea was dispensed by several of the lady members at the nominal price of 6d. per head, after which Mr. A. Dewey gave a lecture on "Hive Preparation," which was of particular interest to new or intending members.

Mr. G. H. Barnes also gave an able description and demonstration of how to extract honey and bottle it.

A large chart hung in one of the rooms described some of the past year's activities of the Association, which included 23 lectures and demonstrations; five district branches formed with committees and officials; 270 new members, the organisation and carrying out of the first British restocking scheme, arrangements made for free lending reference library of bee books and periodicals for use of members by post if necessary, and certificates of merit instituted for specially valuable work in connection with Kent bee-keeping.

There were numerous mottoes around the room very pertinent in their suggestion, two being as follows:—

"We cannot *all* win prizes, but at *least* we can try."

"A *Bee Owner* who depends on *Luck* is an *Obstruction* to the *Success* of others."

Two rhymes by Mrs. Paulin, as follows, were very clever:—

A was an Amateur, a hobby he sought.
B was the Bees, a fine stock he bought.
C was the Comb they so neatly contrive.
D was for Drones turned out of the hive.
E was the Expert who made with a will.
F Frames with foundation all ready to fill.
G was the Gain our Amateur sought.
H was the Honey which all the folks bought.
I was the Increase he quickly made up.
J was the Judge who awarded the Cup.
K was for Kent, that county of trees.
L was for Limes much loved by the bees.
M was the Money collected in box.
N was the Nuclei made into stocks.
O was the Orchards where bees love to fly.
P was the Prizes for which we all try.
Q was for Queen, the hive has no king.
R was Re-stocking, most excellent thing.
S was the Scheme for that purpose they made.
T the Ten shillings all willingly paid.
U was Uniting the swarms in the autumn.
V was the Veil he wore when he caught 'em.
W was the Workers, how freely they give.
X their Existence that others may live.
Y was the Yield collected with ease.
Z was the Zany who wouldn't keep bees.

MARY PAULIN.

K ent Bee-keepers' Association.
E very competent bee-keeper,
N ovice, and
T hose interested, should

B elong to this Society, to
E ncourage an industry so
E ssential to the United
K ingdom, and promote an
E ffort to develop home produce
E very pound of Honey
P rocured means *FOOD*.
E ach bee-keeper can
R ender valuable service and
S ave an enormous wastage

A nnually incurred by
S ecuring the nectar
S o abundantly provided.
O nly by united effort
C an we help one another
I n the common cause.
A ll difficulties can be discussed
T o mutual advantage, and
I nformation is readily given.
O nly 2s. per annum—join now.
N eed more be said?

MARY PAULIN.

Mrs. Dewey presented the prizes to the following ladies and gentlemen in a few well-chosen words:—

Class I.—Sections of Honey: 1, G. Bryden; 2, W. H. Prior; 3, W. H. Prior.

Class II.—1, Mrs. G. Bryden; 2 and 3, W. H. Prior.

Class III.—1, G. Bryden; 2, H. Davis; 3, G. S. Baird.

Class IV.—1, G. Bryden; 2, A. G. Tarter.

Class V.—1, W. H. Prior; 2, W. E. Moss.

Class VI.—1, Mrs. Bryden; 2, Bryden; 3, Judge.

Class VII.—1, Bryden; 2, G. S. Baird; 3, Bryden.

Class VIII.—1, Bryden; 2, W. H. Prior; 3, W. H. Prior.

Class IX.—Beeswax: 1, Mrs. Judge; 2, Brydon; 3, G. H. Barnes.

Class X.—1, J. W. Darby; 2, Mrs. Sims; 3, Mrs. Hammond.

Class XI.—Utility: 1, Mrs. Judge; 2, Mrs. Barnes.

Class XII.—Home-made Hives: 1, W. H. Prior; 2, H. Davis; 3, C. F. Gee.

Class XIII.—1, W. H. Prior; 2, G. Bryden; 3, G. H. Barnes.

Class XIV.—1, Judge.

Class XV.—1, Bryden; 2, Mrs. Bryden; 3, W. H. Prior.

Class XVI.—1, G. Barnes; 2, G. Bryden; 3, R. Berrington.

Special Awards of Merit:—1, G. Bryden, Rochester (46 points), cup; 2, W. J. Prior, New Eltham (31); 3, Mrs. Judge, Dartford (14); 4, Mrs. Bryden, Rochester (8); 5, G. H. Barnes, Dartford (7); 6, H. Davis, Crayford (6); 7, A. E. Barnes, Dartford (6); 8, G. S. Baird (5); 9, J. W. Darby (4); 10, W. E. Moss, Hinckley (4).

ECHOES FROM THE HIVES.

Bees have done fairly well in this locality. One of my stocks has beaten the record for this village. I have bottled off 144lbs. taken from six racks of shallow combs. I had four full ones on at once. I hope it will escape disease and survive the winter, as the hive is now packed full of bees and stores. Another stock I had at an outlying farm about 1½ miles away gave me 45lbs. surplus, but as I am unable to give it so much attention the bees swarmed, or no doubt it would have given much more. We are very busy, and like so many more, short-handed. Three of my sons have "joined up," so I have not so much time for the bees now.—T. MARSHALL, Sutton-on-Trent, Notts.

I started this year with two stocks, my third stock, a 1916 swarm, having succumbed to damp in the hive during the winter.

My strongest stock prepared to swarm in June, but was hindered by the inclement weather then experienced, and as they did not settle down, I divided them early in July. I have now three good stocks, and have taken a little over 100lbs. of honey. The bees have, however, very little food in their combs, so that I am now feeding them with unripe honey, pending a supply of candy being available.

I have read the BRITISH BEE JOURNAL with much interest during the year, and found the many hints given of much practical value.

Hoping that the new year will find our small but important industry in flourishing condition, and the nations once again at peace, with best wishes for the BRITISH BEE JOURNAL.—H. W. ROUND, Catford, S.E.6.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

SWARM CONTROL.

[9513] I have much pleasure in complying with Mr. Dymond's request, and beg to state my views on this all-important question, not because I want to claim more experience, but, in my opinion, the more we compare notes and ventilate our experiences, the more we shall contribute towards the success of bee-keeping.

Mrs. Perry's article in last week's issue on a Novice's first experience, demonstrates what a source of trouble swarming, unless properly controlled, can become—by the way, if Mrs. Perry repeats her experience next year, which I hope she will not, there will be no need for scarcity of bees on the Woodford side then—no doubt the prolificness of the alien races of bees is the main cause of excessive swarming, and I quite agree with Mr. Dymond that a ten-frame brood-chamber is not sufficient for a vigorous queen's capacity. Fifteen brood combs are none too many, and an extra box of ten shallow brood combs should fill the want. Mr. Dymond proposes to put these as "a summer annex" above the brood chamber, but here I beg to differ from him, I would put the shallow combs *below*, and for this reason.

In practice, Mr. Dymond will find that the ten combs in the brood-chamber are crowded with bees, and the queen wanting more room for laying by the end of April, when cold nights and mornings are the order of the day, to then put a shallow box, even of drawn-out comb, on the top would cause a considerable reduction of heat in the lower brood-chamber, and as a consequence chilled brood. To avoid this I think it is preferable to put the shallow box underneath the brood-chamber, as in the natural order of things bees extend their brood-nest downward in order to store the incoming honey at the top, and the danger of chilled brood thus does not exist. For the same reason I do not give the bees access to the whole of the first honey super at once, but by degrees, start-

ing with two frames of worker comb by preference, of course over excluder, adding more frames as required, and keeping the super well wrapped up.

No doubt, Mr. Dymond has experienced, when putting on a super of eight shallows, that the bees do not take possession of the whole super at once, but start working the foundation and filling the combs from one side, extending gradually from frame to frame until they reach the last frame at the furthest side, it stands to reason that whilst this work is in progress there must be a continuous loss of heat, as the bees do not cluster on all the frames and yet have to keep up an even temperature in the unoccupied portion of the super in order to build comb and cap the honey. As an easy means of ascertaining when the bees require more room in the super, I place on top of the super frames a sheet of transparent celluloid, and can then observe from day to day what progress the bees are making without undue disturbance to the quilts.

When removing the surplus honey, the shallow box below brood-chamber may be left *in situ* during the winter, or be placed on top with excluder between for any brood left to hatch out and then removed.

As a further prevention of swarming, I might mention that before I place the shallow box below the brood-chamber, I would remove from latter one comb of brood and eggs, and an outer comb with honey to form a nucleus for queen rearing, replacing these two combs by two frames of empty comb or foundation, and putting same in the centre.

From conversation with bee-keepers, I have often found that many, on a swarm issuing, will hive same separately instead of cutting out queen cells from the parent stock, making a nucleus of 2 or 3 combs to be replaced by frames with foundation, and then returning the swarm. As a consequence, we hear complaints about the loss of honey crop, and the bee-keeper wonders when the increase of stock is going to stop. Is it because such bee-keepers lack the courage to unlimber a hive with three or more supers in order to get at the brood-chamber? I cannot find any other explanation, as all bee-keepers ought to be aware of the fact that the returning of the swarm to the hive it issued from is the whole secret of success to secure a honey crop, and one of the golden rules laid down in the "Guide Book," and so often advocated in this journal. I feel sure, once a timid bee-keeper sees this operation performed he will be surprised how easy it is of manipulation, and screw up sufficient pluck to perform it himself next time. Confidence begets confidence.

In conclusion, to a great extent—I might say of necessity—the state of the weather during the spring months is more often than not a determining factor in regulating swarming. Bees do nothing invariably, and with apologies to Burns, we might truly say—

"The best-laid schemes of man and bees
Gang aft a-gley."

As to the question of standardisation of hives raised by Mr. M. C. Harman, what better hive can he want than the W.B.C. hive? All interior parts are interchangeable with other hives of the same pattern, and the outer cases give protection against the vicissitudes of our climate in winter as well as in summer.—O. PUCK, Chingford.

[9514] I read with interest the letter No. 9503 in JOURNAL for August 30.

My experience last year was similar, and I came to the conclusion that the ordinary ten frames were not sufficient for a very prolific queen if she was to have scope for her energy.

Last year I started with only one stock, and was, of course, pleased with all the increase I could safely get.

As I wrote you at the end of the season, I increased my one stock to six, and also got a good quantity of honey.

I decided that this year I would at least try the experiment on some of my stocks by giving an extra lift of shallow combs in addition to the brood box.

In the rush of things I have failed to carry this out, but I am more convinced than ever after this year's experience, that some such method would be advisable.

In the early part of the season, I went through my six hives some short time after supering, and found in each case the brood chamber was one mass of sealed brood, and queen cells were present in different stages.

From the state of this brood it was evident that the queen had been for many days, and would be for a further period, idle for want of room. From a bee-keeper's point of view, this is, of course, a loss.

I formed nuclei by taking out three frames of brood and queen cells, replacing with foundation, only to find later these drawn out and the whole hive in a similar condition. It was my intention to strengthen the nuclei regularly from the old stocks, but I only managed to partly carry this out.

The result was that a little later five out of the six swarmed. These swarms I returned after dealing with the queen cells.

This method of adding a lift of shallow combs to the brood nest should, I think, only be adopted in the case of a very pro-

lific queen, and I hope to put it to the test next year.

It would be interesting to have the views of experts on this matter, and perhaps, Messrs. Editors, you will give us your views. No doubt the system has its drawbacks.—W. PARSONS.

STANDARDISATION OF HIVES.

[9515] I am glad that the principle stated in the letter, which you published on August 31, receives the approval of Mr. Fred. L. Wilson and Mr. Ernest E. Brown, both of whose communications I have read with interest.

I am inclined to disagree with the latter correspondent as regards certain details.

For example, Nos. 1, 2, 3, 4, and so on, should be used instead of 1*a*, 1*b*, 1*c*, 1*d*.

Lack of precision is what we have to fight against, and if we do not fix a definite number for each distinct hive (however slightly it may differ from its fellows) we shall have the usual trouble of people "thinking" that the one is "nigh enough" like the other to make no difference.

Then, again, Mr. Brown believes that three standard numbers would be sufficient for the present. I feel sure that this is a mistake.

In order to be successful, we must carry with us the opinions of the great majority of bee-keepers, and their views as to the best type of hive vary considerably.

After all, the great thing to be aimed at is that once a hive is ordered one should know exactly what to expect, and should be able to interchange all the parts with any other hive of similar standard number, no matter where or when it was bought. How many standard numbers exist is of less importance.—M. C. HARMAN.

BACTEROL AND "ISLE OF WIGHT DISEASE."

[9516] I see W. J. Gibbs (9510) replies to J. Valley in 9500. I must give my vote in favour of J. Valley, and say Bacterol will not cure the "Isle of Wight" disease; at the same time, I believe it is the best thing on the market at the present time, and I would not be without it. Italian bees under my charge last year were sprayed every other night, and fed through August and September with Bacterol syrup, same food this last spring, and again now; although they have done very well this summer, yet the disease is there still. Mr. Gibbs (9476) says outside crawlers he does not bother with; if no disease, why outside crawlers? I notice in May, 1916, of the BEE JOURNAL how one of your correspondents (a dealer to boot) had suffered with this disease, and it was still with him, yet four or five months after he was advertising his queens; of course, a letter appears in the same issue saying how he had cured the disease with Bacterol. All honour to him, if he had, but I should not want his queens from an apiary so little time before suffering with the "Isle of Wight" disease.—J. PEARMAN, Derby.

HEATHER DISTRICT IN KENT?

I have a small apiary situated near Erith, which is about five miles east of Woolwich. I am wondering if you, or any of your readers, could tell me which is the nearest heather district, as I am anxious, in the future, to move my bees so that they may fill up with heather honey in the autumn.—E. F. MASSON, "Edgeworth," Belvedere, Kent.

[Possibly one of our readers in the district referred to can give Mr. Masson the information he requires.—EDS.]

QUERIES AND REPLIES.

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

BROOD FEEDING.

[9068] Cowan, on page 157, in "The Honey Bee," states that honey and *digested* pollen are added to the food of the future workers after the third day.

Now in what sense is this pollen digested? As I understand it the nurse bee takes the pollen from the cell, moistens it with saliva from Gland System No. 4, chews it, and then places it in the cell.

But gastric juice from the cells lining the chyle-stomach and even gastric teeth are mentioned as being necessary to *complete* digestion.

Yet I do not see how pollen can be obtained from the chyle-stomach except in association with honey and secretions from all four gland systems.

Planta, on p. 122, simplifies matters by omitting any mention of digested pollen. With regard to the honey added to pap of the worker larvæ, I understand that to come either from cells or honey-stomach

and secretion from Gland Systems 2 and 3 to be added as the nectar is first swallowed and secretion from Gland System 1 as the honey is fed to the grub. Would secretion from Gland System 4 be found in this honey?

The *undigested* pollen fed to the drone larvæ after the fourth day evidently means pollen from the cells, with no secretion from the glands added.—A. A. E. TUCKER.

REPLY.—If you will refer to Cowan's "The Honey Bee" on page 109 you will find how both honey and pollen are taken when eaten. How it is digested and converted into chyme, on page 110. Pollen is digested in the chyle-stomach by means of the gastric juice and converted into chyme either with or without honey. When required for brood-food the way it is forced from chyle-stomach through the honey-stomach is explained and illustrated on pages 121 and 122. The pollen is not taken from the cell and moistened with saliva from Gland System No. IV., and then chewed as you suggest, but is digested or semi-digested as needed in chyle-stomach. After receiving an addition from System I. it passes into the cells to feed larvæ. The pollen in chyle-stomach is in association with honey, both being digested to produce chyle. After three days for worker larvæ this chyle-food has an additional quantity of pollen in it which is also digested, and undigested honey is added to it which is taken from the cells, and does not require secretion from Gland Systems II. and III., as only System I. is in operation when feeding larvæ.

It is supposed that System IV. has a digestive function, but this is uncertain, as little is known about it.

The undigested pollen fed to drone larvæ comes from the cells, and does not pass into the chyle-stomach.

WEATHER REPORT.

WESTBOURNE, SUSSEX,
August, 1917.

Rainfall, 4.72 in.	Minimum on grass, 39 on 20th.
Above aver., 2.01 in.	Frosty nights, 0.
Heaviest fall, 1.32 on 1st.	Mean maximum, 65.1.
Rain fell on 25 days.	Mean minimum, 55.6.
Sunshine, 155.9 hours.	Mean temperature, 60.3.
Below average, 56.4 hours.	Exact average.
Brightest day, 19th, 10.1 hours.	Maximum barometer, 30.059 on 25th.
Sunless days, 3.	Minimum barometer, 28.817 on 28th.
Maximum temperature, 73 on 5th.	
Minimum temperature, 45 on 20th.	

L. B. BIRKETT.

CONSTANT READER (Lanarks.).—*Introducing a queen to stock with laying worker.*—Cage the queen and a few workers under a pipe cover cage over some unsealed larvæ on a comb from another stock, first shake or brush all the bees from it. Place comb and queen in the stock with the laying worker, keeping the queen caged for about 36 hours.

Y. C. GAULTON (Dorset).—*Feeding with unripe honey.*—You may use the honey for this purpose, the amount of water to add depends on the consistency of the honey. Three or four tablespoonfuls to each pound will probably be sufficient for unsealed honey. Boil for 10-15 minutes, and medicate when cooled to 100 deg. Fah.

L. ILLINGWORTH (Shirley).—*Weight of sealed stores from a pound of candy—or sugar.*—The 10oz. of water added will weigh about ½lb., making a total of 1½lbs. The bees will evaporate some of the water, and some of the syrup will be used for making wax, so the amount of sealed stores will probably be about 1¼lbs. to 1lb. 6oz. from each pound of candy less if the bees have comb to build.

F. AND A. FISKEN (Westerton). — *Feeding with foreign honey.*—You may use this, but we do not advise it, as there are no means of knowing whether it comes from diseased or healthy colonies. Candy will be quite as cheap, and much safer. Your appliance dealer can get it for you. If you do use the honey, add nearly ¼ pint of water to each pound and boil for 20 minutes, being careful not to burn it; medicate when cool enough.

G. H. (Dewsbury).—*Markings of different varieties of bees.*—You will find these described in the Guide Book, page 142. (1) Natives are brown. (2) Italians; lighter in colour than natives, with three distinct yellow bands below the wings. (3) Carniolans; similar to natives, but the rings on the abdomen are much lighter in colour. This is due to the hairs fringing the dorsal plates being very light coloured. (4) Cyprians; smaller than Italians, and brighter in colour. The bands are more strongly marked—the thorax is also yellow. (5 and 7) Hybrids will show the colours, in varying proportions, of the varieties of both parents, the yellow being the most noticeable, from just a tinge on one abdominal ring to two yellow rings, etc. A better description for some so-called hybrids would be mongrels. (6) Golden Italians are Italians that have been bred to colour until by long selection they are more yellow and of a richer golden colour than Italians.

B. R. OBORNE (Hants).—All you suggest we have tried. We are not responsible for Government action. Your estimate of 100 per cent. is a long way out. Messrs. Pascall pay more than you are aware of for sugar. The firm are doing the work practically for nothing in order to help the industry, and surely you do not desire their employees to also work for nothing. You might as well expect appliance manufacturers to supply hives at the cost of the wood only. We refer you to Messrs. Pascall's letter in *B. B. J.* of August 30, page 275.

You are wrong in saying that "Bacterol" is an untried remedy. We ourselves have had some remarkable results from its use, as also have many veteran bee-keepers, including our old friend, Mr. W. Woodley. Surely their experience is worth something.

J. A. CLAXTON (Doncaster).—Supersedure, probably owing to the spraying. This will occur at times. The disease was evidently sour brood.

F. E. G. (Glasgow.—It was a pity you destroyed the queen. She was a fine specimen, the ovaries well developed. She had mated, and had honey been coming in would probably have been laying. No doubt a little stimulative feeding would have induced her to lay.

HENRY FOWLER (Dorset).—We cannot say what the law would be on the subject, or what decision a

County Court judge would give. We should think the lodger could probably make good his claim, but you could counter-claim for expenses looking after them, your own time, cost of hired help, rent of ground, hire of hive and cost of materials. Point this out to him, and see if you cannot come to some arrangement. If you fail to do so, consult a solicitor.

VERACITY (Wexford).—(1) No. (2) Yes; but flour candy should not be used during the winter. It should only be given in early spring, when the bees are likely to have numerous opportunities for a cleansing flight. (3) The fourteenth edition, 1896.

Honey Sample.

G. GARDINER (Bucks).—Clover honey. Colour and flavour good; density only fair; 120s. per cwt.; 1s. 6d. per 1lb. jar.

Suspected Disease.

R. M. S. (Sanquhar).—"Isle of Wight" disease.

T. EDGELER (Catford).—We do not find disease in the bees sent. Natives, with just a trace of Italian.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Trade advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1d. per word as "Business" Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 8s. per inch.

PRIVATE ADVERTISEMENTS are only intended for readers having Surplus Stock to dispose of. Driven Bees, Nuclei, and Queens that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

RE the new remedy for "I.O.W." disease. The name of the drug has been given to the Board of Agriculture; the results of various experiments and an investigation has been requested. No more free samples can be sent, but a limited supply is on hand for distribution to those who forward a stamped, addressed envelope and a 6d. P.O. Those who have benefited will please report. —S. H. SMITH, 30, Maid's-causeway, Cambridge. k 17

600 Wallflower Plants for sale. Grand strong plants, 5s. per 100.—S. P. SOAL, Brook Road, Prittlewell, Essex. k 18

EXTRACTOR, second-hand, new condition, will take 2 standard frames, or sections, chain gear and 2 lids, Lees make.—W. HOLLAND, 19, Wellesley Grove, Croydon. k 19

FOR SALE, strong stock, 8 frames, young queen, 25s.—FARMBROUGH, Hazlemere, Bucks. k 20

A FEW 8-frame stocks of bees and stores left, 34s.; Dutch, slightly crossed with American golden, 6-frame, 26s.; 4-frame, 18s.—W. GREEN, The Ferns, Laindon. k 21

WANTED, one strong lot driven bees, English Blacks; must be healthy, 1917 queen; state price.—C. S. MORRIS, 15, St. John's-road, Putney Hill, S.W.15. k 22

WANTED, Best English Clover Honey, 140s. per cwt.—Samples to WARD, Deeside Nursery, West Kirby. k 30

WANTED, second-hand Cowan extractor, in good condition. Give details and price.—DEWHIRST, Old Wellhead, Halifax, Yorkshire. k 24

THREE stocks Sladen's Goldens, 1917 queens, very quiet to handle, sold on 7 frames, price £2 each; lot £5, carriage paid. Boxes to be returned promptly.—ERNEST WALKER, Spring Grove, Cobham, Surrey. k 25

THE Wandsworth B. Sub-Committee of the London War Pensions Committee desire to hear of work in the country for a discharged soldier who has had many years' experience of bee-keeping.—Apply, HON. SECRETARY, 21, Mexfield-road, Putney. k 26

WANTED, healthy driven bees. State price per lot.—RECTOR, Gislingham, Suffolk. k 27

WANTED, W.B.C. hive, in good condition, Lees make preferred.—Please state composition, lowest price, to O. PUCK, Darenth Lodge, Chingford, Essex. k 28

FOR SALE, healthy stocks of Dutch bees, on 10 frames; £2 each. — RECTOR, Donnead St. Andrew, Salisbury. i 77

WANTED, first quality honey, 1s. per lb., in bulk.—NEVILLE & GRIFFIN, Slough, Bucks. i 80

WANTED, good heather sections.—State price and quantity to MANAGERESS, St. Ann's Café, St. Ann's Street, Manchester. i 86

WANTED, an Abbott's "New Model" W.B.C. hive, without internal fittings, but must be complete with two lifts, waterproofed roof and in perfect condition; one exhibited at the Royal Show preferred.—Particulars and price to EALES, Tiverton, Devon. k 1

WANTED, large breeding cage, for white mice.—Particulars to MOUSE, BEE JOURNAL Office, 23, Bedford-street, W.C.2. k 2

FOR SALE, 1cwt. prime light-coloured English honey, 140s.—PEARS, 31, Pugin-street, Carlisle. k 4

FINE Irish extracted honey, well ripened, 156s. per cwt.; samples 3d.—S. CRAWFORD, Apiaries, Castlederg, Tyrone. k 12

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

FERTILE queens from 3s. 6d. each; bees at *Times* price per lb.—PRYOR, Breachwood Green. k 14

1917 IMPORTED Golden Italian Fertile Queens, 5s.; specially selected, 8s.; regular supplies until end of season.—GOODARE, New Cross, Wednesfield. i 38

BEES WAX, in any quantity, 1s. 9d. lb. given. —CHARLES FARRIS, 71, Bishopsgate, London, E.C. 2. a 8

MESSRS. STONE & SON, LTD., Chemists, Exeter, are buyers of English Beeswax, in large or small quantities. Write, stating quantity and price required. a 3

THREE lots driven bees, with queen, 7s. 6d. each, carriage extra; fertile queen, 2s. 6d.; stocks in skeps, 25s.; good stores; guaranteed healthy.—W. WOODS, Normandy, Guildford. k 29

PRIME healthy nuclei, pure Italians, Hybrids, and Blacks, young queens; all have had an unlimited supply of Bacterol candy, 30s. each.—G. VINCENT, 152, Croydon-road, Anerley. k 23

SENDING REMITTANCES.

Will subscribers, and others, please bear in mind when sending remittances that though the most cordial relations exist between ourselves and the B.B.K.A. the latter has no business connection with our papers. All cheques or money orders for B.B.K.A. should be made payable, and sent, to the secretary, and not mixed up with our accounts. Many people appear to be under the impression that our papers are owned by the B.B.K.A., judging by the number of cheques we received including in the one amount subscription to the B.B.K.A., insurance, and subscription to one or both of our papers, or remittances for books. It would be just as reasonable when sending a cheque to the grocer to make the amount large enough to pay the butcher's bill as well, and expect them to adjust the matter. We have even on several occasions received cheques to cover subscriptions to both the Journal and one or other of the county associations. This kind of thing causes a lot of needless trouble and delay in adjusting accounts, and in future if cheques are sent for these mixed accounts we may feel obliged to return them to the drawer for the amounts to be separated.

A DORSET YARN.

"How early in the morning do the bees begin work?" was asked of me some time since. If it's going to rain, they are not in a hurry, but if fine I have seen them out between five and six o'clock when, as Keats so beautifully puts it:—

"Dewdrops like diamonds hung on every tree,
And sprinkled silvery lustre o'er the lea;
And all the verdurous herbage of the ground
Was decked with pearls, which cast a splendour round;
The flowers, the buds, and every plant that grew,
Sipp'd the fresh fragrance of the morning dew.
In every plant the liquid nectar flowed,
In every bud, and every flower that blowed;
Here roved the busy bees without control,
Robbed the sweet bloom and sucked its balmy soul."

I am quoting from memory; it may not be word perfect, but it shows that this fine poet was a lover of nature, and was about in the early morning to see its entrancing beauty, he saw the bees out when the dewdrops glisten like diamonds. When the day is still young and the sun still low in the east, bees are going from flower to flower, sipping the sweet nectar from the newly-open ones; early morning in rural England, when the land is bright with flowers, makes one glad to be alive, active, and strong, to tread "the enamell'd earth, that from her verdant breast, lavished spontaneously ambrosial flowers, the very sight of which can soothe to rest a thousand cares, and charm all our sweetest hours." One must keep to the subject of bees. I have watched them in early morning on the marrows. Text-books tell us bees get nectar from the female flowers and pollen from the males, but I have seen bees get down to the base of the plume that bears the pollen where there are three small openings and push their heads into them; again and again, I have noticed bumble bees go to the same openings in the male flower and put their heads to each. I do not think they would each do this if there was not nectar to be found at the base of the flower. I have noticed the bees in St. John's Wort (which is a perfect flower in itself, having both organs in one calyx) scramble over the large amount of anthers to get at the base of the flower—as they will in the arum family. These small flowers are ranged round the column, the males on the top, the females at the base, and between the two there are a few in a ring neither one nor the other. It seems to be an arrangement to keep the bees prisoners until all the small female flowers are fertilised at the base; it is going away from the subject of bees, but there are a number of flowers that are similar to them, which has been a source of wonderment to the simple socialist of Dorset.

There must be some scent of honey in the male flowers of marrows, or the bees would not work them so persistently as they do; while they are searching them the whole body of the bee is covered with pollen, the next female flower she visits will have abundance of pollen carried to the stigmas for fertilisaton.

In early mornngs now (September) when near the perpetual raspberries (Lloyd George), I notice bees are busy going from stem to stem, I guess they are looking for those blooms that have just burst the calyx open; these must give a lot of late food to store into the brood chamber to carry on in the winter. At midday, when the heavy dew is gone, I note that the white clover is an attraction still, but in early morning it is left severely alone. Raspberry flowers hang downwards, and have not so much dew on them; I guess the nectar smells stronger for being dry.

A wonderful provision of nature that some flowers which are perfectly upright by day, all the seed organs exposed to the sun, but at night they arch over at the top of the stem, and the seeds are covered by the back part of them from the heavy dews that might injure these delicate organs of reproduction.—J. J. KETTLE.

KENT BEE-KEEPERS' ASSOCIATION.

ROCHESTER BRANCH.

By the invitation of the Gillingham Allotment and Smallholders' Association Committee a series of lectures and demonstrations were provided by Messrs. Bryden, Fry, Reader and Gee. Councillor A. E. Waldegrave presided, and emphasised the importance of smallholders taking up bee-keeping as a means of increasing, and obtaining better, results from their orchards, etc. He expressed his gratitude to Mr. Bryden for the staging of a splendid trophy of honey, and also all the prize honey which he so successfully exhibited at the Dartford Show on August 25. In the morning Mr. Fry gave a very interesting and successful demonstration to the boys from the various schools around, about 300 being present, and hopes were evident for the future. In the evening Mr. C. Gee gave a very lucid description of the W.B.C. hive and various appliances, showing how best to deal with them. This was followed by Mr. Bryden with a talk on the constitutents of the hive, combs, and produce, holding up as an example his own exhibits, which were on view, to the satisfaction of a very large and enthusiastic audience.—*Communcated.*

STANDARDISATION OF HIVES.

The difficulties in the way of this at present are probably counterbalanced by the fact that stocks on makers' hands must be at their lowest, if they actually exist—which I doubt. If the problem of standardising all the most suitable patterns is unattainable at once, I would suggest we *do something* at all events. Why not then set about fixing that one hive, above all others the very best we have, the double chamber, or W.B.C. hive. It is indisputably the hive for the British worker, recent controversy nevertheless, which ended where it began. This is the land of the small bee-keeper, and until the climate changes is not likely to be otherwise. For these two reasons alone, the W.B.C. hive will hold the field as the very best pattern.

But that we may reap the full benefit of it, its details do need standardising. To the beginner, especially, the agglomeration of W.B.C. hives put forward by manufacturers is a source of perplexity, misunderstanding, and annoyance. That no two makes are identical is probably the case, but I will confine my attention to the two I know, both by leading makers, and examine the outer chambers only. Interior furniture being all alike and of 10-frame capacity needs no alteration, it is standardised already right enough. Its adaptability for extension by tiering is very satisfactory, avoiding any necessity to call for extra large brood chambers for odd numbers of frames and confining the complete hive to sensible proportions as to bulk. Extra frame capacity is clearly a matter for the single chamber hive worker where tiering is not so adaptable, and where one, two, or three extra brood frames has relatively not so much influence upon the bulk of the whole structure.

Hive A.—Outer dimensions of outer chambers and floor-board area, 20 in. long 18¾ in. wide, with boards ½ in. thick (full); an excellent hive, with but one fault in the W.B.C. principle. It will not take the interior brood chamber supplied with it, either parallel or right angles. With the many details that go to make the sum of practical bee-keeping the fault is a serious one *at times*.

Hive B.—Same details, 21 in. long, 19 in. wide, of 7-16 in. material. This will take its own inner chamber which has loose entrance bee trap, either parallel or right angles. It has one fault, not on the working side. The material is too thin, and tends to lightness and inability to resist displacement in dirty weather in an exposed situation. Otherwise, the W.B.C. principle is complete, and therefore the better one for the bees and the worker.

Both A and B however have a fault in common, that the chambers are antagonistic. In plain truth, one or the other, or both, have no right to the title of "W.B.C.," though they are double hives, in fact. It is a pity there is no restriction on the use of the W.B.C. definition. If there were, there would not be the great confusion and perplexity of the beginner, who, with reason, regards all W.B.C. hives as identical.

To reconcile varying circumstances in the matter of timber, for instance, as in hives A and B, I would suggest that a standard floor-board and outer chamber area of 20 in. by 20 in. be adopted. If it is considered necessary that one dimension of A should be 20 in. ½ in. timber, which does give free movement for the standard 10-frame inner chamber in one position, it is equally necessary that 20 in. should be the other dimension to secure adaptability and free movement in the other position.

(To be continued.)

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES FROM HERTS.

[9518] Please place my name on the list of bee-keepers advocating the standardisation of hives. Have read with interest the ideas set forth by the writers in THE BRITISH BEE JOURNAL on the same subject.

I should also like to see the scheme proposed by W. Ion for the benefit of returned soldiers and sailors carried out. I promise to contribute my "bit."

Another thing I should like to see, is the class for "Best photographs of bee life" extended to all honey shows, and as many as possible of the photographs to appear in THE BRITISH BEE JOURNAL.—F. G. PHIPPS.

SUGAR-FEEDING AND "ISLE OF WIGHT" DISEASE.

[9519] "Do not on any account be tempted to extract honey from the brood combs and feed sugar syrup in its place; remember that honey is the natural food of bees, and far better for them than the best and purest cane sugar than can be procured."

I was pleased to see the above timely warning in your "Seasonable Hints" in BRITISH BEE JOURNAL of September 6. It will bear repetition. I am one of those who can see a connection between sugar feeding and the "Isle of Wight" disease, and the practice of stripping brood chambers of their honey, and substituting sugar syrup is worthy of severe condemnation. What sort of progeny can one reasonably expect from a queen who has been feeding all the winter on an admittedly inferior food? Ask a breeder of any other stock what he thinks of the practice. If we are to get the best out of our bees they will have to be properly fed.

I have been through my brood chambers this past week, and find little honey in them, and have consequently left each stock a super of honey. I also notice that the swarms have very little pollen. Will this shortage, think you, adversely affect brood rearing in the spring? The continuous bad weather during August has seriously curtailed the honey crop, and has given the bees no chance of storing in the brood chambers.—W. H. WHITE.

[If there is a shortage of pollen in the spring, artificial pollen may be given until the early flowers provide a supply.—EDS.]

STANDARDISATION OF HIVES.

[9520] I am pleased to see the question of the standardisation of hives taken up in THE BRITISH BEE JOURNAL. I hope this matter will be carried through this winter and got into working order for next spring. Although it does not affect me, having got over that difficulty myself, my experience may help others. Like most bee-keepers, when I started I got all sorts of hives and supers, and very soon had trouble with interchanging.

I set to work to make a hive which I thought would meet all demands, but found it was no better than the rest.

I tried again with another hive with no better results. It was at this stage I found out my mistake. I had been starting at the wrong end, namely, outside instead of inside.

I then worked as follows:—I made a standard pattern brood box (ten frames), also shallow frames and section racks, and made the three so they would one fit over or under the other and be bee-proof without any packing.

I then made an inexpensive case, or hive, to receive them. In this I adapted the Ionic Hive, which was recently published in THE BRITISH BEE JOURNAL.

A simple light case, self contained, with no lifts or other loose parts whatever—nothing to interchange.

Working on these lines, I find all my troubles respecting standardisation at an end. I can change the supers, or brood box, about as I wish without any trouble. Failing a British standard there is no reason why individual bee-keepers should not work on these lines, namely, adopt your own standard brood-box and supers first, then your standard hive or case to receive them. It will be found that nearly all boxes and supers will work in. If too large, they can be reduced, and if too small, a lath on the top and bottom edge on the outside will bring them up to the standard outside measure.

As to the hive, or outside cases, if they cannot be altered to the standard, if carefully taken to pieces, all the timber can be used in making supers. A handy joiner can soon alter a few hives and supers, only give him something to work to.

I speak from experience, because I am

in the joinery trade. I should be pleased to publish my standard working drawings, or arrange to send full size one, to anyone if it will help to bring about standardisation of hives and supers.—W. Ion, Healing.

[9521] In your issue of September 13, Mr. O. Puck asks [9513] "What better hive can he (Mr. M. C. Harman) want than the W.B.C. hive?

Mr. Puck has evidently missed the point of my letter. I did not discuss the merits of the innumerable types, and variations of types, of hives at present in the market.

I think Mr. Puck will probably understand the point I wish to make if he will read his own advertisement.

It runs: "Wanted, W.B.C. hive; Lees make preferred. Please state composition."

Under my scheme of standardisation the hive Mr. Puck esteems so highly might possibly be called standard hive No. 1.

As it would be made precisely to the same plan and specification as all other standard hives No. 1, it would be necessary for him neither to specify the name of any particular maker nor to inquire as to the "composition" of the various W.B.C. hives which might be offered to him.—M. C. Harman.

BACTEROL AND "ISLE OF WIGHT" DISEASE.

[9522] In reply to J. Pearman (9516) I can only put his assertion down to childish stubbornness, which will not give another the credit for obtaining good results where he has failed. I state facts as proved by my experience.

Among other stocks I had one of twelve frames which dwindled down to two, those two and the remainder of my stock were saved, and the reason the dwindling went so far was because I had not then heard of "Bacterol," which proved to be the saviour of my apiary. J. Pearman evidently thinks I am incompetent to judge when a cure is effected, but I am too old a bird to be caught like that, all I ask is that he will come and inspect my apiaries, and if he can find one single diseased bee, I will make him a present worthy of his discovery, and perhaps he will tell me what has cured my bees and those of my many clients, if it is not "Bacterol," for nothing else has been used.

He also asks the question:—"If no disease, why crawlers?" If he would take the trouble to read the whole correspondence, and not extracts from it, he will find, when I made that statement, I was alluding to the treatment of diseased stocks, and in those cases I always collect and destroy crawlers.

I can only say that with me "Bacterol" has been a COMPLETE SUCCESS, and if others have failed, that is no fault of mine. I have given my method of treatment, and have received several letters of thanks from those who have been successful, and will end up by saying, if you have "Isle of Wight" disease, try "Bacterol." I speak as I find.—W. J. Gibbs.

PRICE OF HONEY.

[9523] It may interest the readers of The British Bee Journal to know that in a town in Northumberland, where I am on holiday, 1lb. sections of heather honey are being sold at 4s. each.—"North."

A STANDARD HIVE.

[9524] The correspondence on the above subject is interesting, and if it leads to definite action being taken by the British bee-keepers' Association and the British Bee Journal with a view to adopting a definite design, they will earn the gratitude of bee-keepers generally, many of whom—like the writer—have a great variety of designs; mine number at present no less than ten, the greatest number to any one design being six. They range from the so-called non-swarming sixteen-frame hive to the most objectionable single-walled variety on the market, from either or both of which the novice might well pray to be saved.

Of course, the inventive amateur is at liberty to exercise his imagination to his heart's content, so long as he does not inflict his productons on the public, but the recognised professional hive-makers should confine their energies to a definite pattern which, in my opinion, should be somewhat as follows:—A "W.B.C." design, the body-box to take ten standard frames and a dummy, all inner cases loose; the outer case to be 20 in. each way outside, so that it would not be possible to put it together wrong; the floor-board to be fitted with a ventilator with sliding lid, size about 6 in. by 4 in. The porch, whether a claustral or the ordinary pattern, is the only matter that should be left to choice, as it does not affect the question. The roof should present a plane surface, and be covered with green ruberoid or stoniflex felt.

Now, as regards cost, we shall have the so-called thrifty person to contend with who will want a low-priced hive, and the only concession I would grant him—and that grudgingly—would be to make his hive of lighter or thinner wood, still adhering to the standard measurements, both outside and inside. We, most of us ad-

mit—I suppose—that "variety is the spice of life," but when applied to bee-hives it doesn't seem to work satisfactorily, at any rate, that is the experience of—E. JACQUES.

SWARM CONTROL.

[9525] In reference to No. 9513, BRITISH BEE JOURNAL, September 13, it would be interesting to know *how* Mr. Puck manages to give bees access to the first super gradually as required, also the size of the transparent celluloid sheets, and where he obtains them.—G. M. ELLISON.

[9526] In reference to [9503], page 272, of the BRITISH BEE JOURNAL, I should like to say that with a decent queen in May and June, the 10-frame standard hive with 10 shallow combs as an annexe for brood as suggested by your correspondent is entirely inadequate.

I had a stock swarm this July from 12, 16 by 10 combs, and 40 standards over it, and in this case no excluder was used, and the queen bred any where she chose, and, indeed, did breed in nearly all the combs in the 16 and 10 frame chambers and those of the others. I hived the enormous swarm on two of these chambers, having added two empty ones, united the lot together again about 10 days later, and had no further bother with them. They gave a big lot of honey, but I do not know how much exactly. I extracted 60 standard combs from them, but all were not full, though the greater part were.

In another instance, two of my stocks swarmed on the same day, and having hived them temporarily in boxes, I put the two brood chambers one on the other on one site, and the four 10-frame standard supers which were on the two hives together on the other sets, and hived the two swarms (about 8 lbs. each) on to the said 40 standard frames (of course, adding others) where they stayed and did well, giving no further trouble. I supered the doubled 16 by 10 comb brood chambers with four 27-section racks, which they filled by the end of the season, but no more. After three weeks I gave the hive with the two swarms back their 16 by 10 comb chamber, where they are now established with plenty of brood honey, having yielded about 200 lbs. of extracted honey.

I use 16 by 10 frames for brood chamber and standard frames for supering and use no excluders till about July 10, when I catch the queen (which is usually a big job), and place her below excluders in the brood chambers, in order that all brood shall be cleared out of the supers before I want to extract.

I believe that the cause of the swarming of late years being excessive is that a very large amount of new blood has been brought into the country, and that the vitality of the bees and their power of reproduction has been by these means so increased that it will be necessary for bee-keepers to alter their ideas of the room required; and, although, as your correspondent observes, a 10-frame standard is a very convenient hive to the bee-keeper, it may not be so to the bees, consequently, I think, it will shortly be necessary to standardise a larger hive. I never did much good in bee-keeping till I took up the 16 by 10 frames, but I have been very successful since. The bees winter better, increase faster in spring, swarm less, and the frames are far stronger. My hives are all exactly alike, and although I use standard frames for extracting, the supers are so constructed that the outer dimensions are exactly the same as those of the 16 by 10 brood chambers which they consequently exactly cover.

I have no shallow frames on the place. —. B. MANLEY.

[9527] Like your correspondent, W. Parsons (9514, September 13), I have found the frames insufficient when a hive contains a really good queen.

A neighbour of mine wintered a hive last year with a super of shallow combs with narrow ends over the brood chamber and this season that hive was his best, it had five supers above in June all filled with bees, a sight to see, and they did not throw a swarm. I am convinced we coddle our bees in winter. I had a hive with a hole in the bottom board, 2in. long by 1in. wide, which I had overlooked. It wintered well, and was one of my strongest stocks this year, and it enabled the bees to keep the hive beautifully clean.

I have now three hives from Welwyn with a hole in the bottom covered with perforated zinc, and the cleanness of the bottom board is beautiful to see. Simmins, in his well-known book, states that he has wintered bees with no bottom board, and they have done well.

My small experience leads me to the conclusion that plenty of bees is the secret of successful wintering. The big cluster provides its own heat. Care should be taken that the quilts thoroughly cover the top to prevent draught.

I have a man who has had 200 hives at a time, from which he says he had 7 tons of honey. He never had a swarm, and he lived 7 miles from them. He, like me, never feeds his bees.

I thought these notes might interest your readers.—R. OSWALD FORDHAM.

HIVE ROOF COVERING.

[9528] In answer to 9496 regarding hive roof covering, I have lately bought some very fine stuff called "Rubberoid"; it is pliable, made partly of rubber and quite rain proof, and costs 1s. 6d. per yard of about 2 ft. or more wide. Full particulars and place where it can be purchased can be had from Mr. Bushby, jnr., Builder, West Street, Reigate, Surrey, from whom I bought mine. Hoping "Mel-Chior" will be able to purchase what he requires.—MAY WHYTE-JOHNSTONE.

PRESS CUTTING.

THE "ISLE OF WIGHT" BEE DISEASE.

The mortality among bees which passes by the name of "Isle of Wight" disease continues with unabated severity, and has now spread to nearly every district in England, destroying innumerable colonies in its progress and threatening to annihilate, or at least reduce to insignificant proportions, the bee-keeping industry in this country. Even in time of peace and unrestricted import, this would be a grave misfortune; at the present time, when sugar in every form is needed for human food and is steadily becoming scarcer, it is a national disaster which for some unaccountable reason appears to have escaped the attention of the authorities.

The mortality which has acquired the popular name of "Isle of Wight" disease from the fact that it was first observed about twelve years ago in that island and for some time was practically confined to it, is in reality not so much a disease as a group of diseases, all of which are fatal and produce the same macroscopic symptoms in the affected insect. The condition known as "crawling"—that is, the inability, more or less pronounced, to fly in spite of desperate efforts — the distortion of the wings, the fæcal discharge known as "dysentery," the dwindling of the numbers of the worker bees, and their sudden and apparently unaccountable death in large numbers are considered by the average bee-keeper to justify him in declaring his bees affected with "Isle of Wight" disease, but none of these symptoms are truly diagnostic.

The honey bee, as was pointed out in in an article in *Nature* of March 2, 1916, has singularly little power of expression, and the writer of the present article has observed the distortion of the wings at one time supposed to be characteristic of the disease in an apparently healthy bee killed in an entomologist's "killing bottle." Some, if not all, of the symptoms referred to may be present whenever bees die of a virulent disease, while there are at least three natural agencies, and possibly more, which cause the "sudden death of bees in large numbers," which Zander says is the most obvious way by which bee disease can be determined. These agencies are (*a*) *Nosema apis*, (*b*) amœboid parasites, and (*c*) certain yeasts present in fermenting pollen.

The first of these alone causes microsporidiosis, the true infectious "Isle of Wight" disease, but the outcome of the confusion of all these maladies under one name has been a vast amount of loose talk and unscientific remedies, to use no harsher term. A preparation of coal tar, a combination of several germicides, hydrogen peroxide, sulphate of quinine and even pea-flour have all been put forward as sovereign remedies and extensively sold to distracted keekeepers. Confident claims that this or that race of bees is immune to the disease have been put forward from time to time, and well-meaning but wholly unscientific attempts have been made to resuscitate the waning industry in places where the mortality has been highest by the introduction of new stocks either of alleged resistant strains or of healthy, but of course susceptible, colonies from some district supposed to be free from infection. The result has generally been disastrous, and there are now many parts of England, where formerly there were hundreds of colonies, in which the industry of bee-keeping has been almost abandoned in despair and a honey bee is a rare insect.

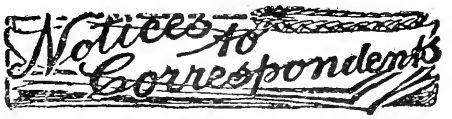
What then is the remedy? Without conceding all the claims that bee-keepers have made as to the value of their charges in fertilising the blossom of fruit trees—for it must be admitted that in the absence of honey bees the work of pollination is performed by other insects—it is allowed that bee-keeping is an important national industry. The nectar in flowers, if not collected and turned into honey by bees, is lost to the service of man, and now more than ever it is desirable to accumulate and utilise every kind of food that can be produced at home.

At the same time, the individual bee-keeper is helpless. Even in the rare cases where he is a man of science, he has no means of effecting a cure if his bees are attacked; still less has he the means of preventing infection. The control, and, where possible, the eradication, of contagious disease is a matter for Government intervention, but the Bee Diseases Bill which was twice introduced into Parliament by the Board of Agriculture, was abandoned owing to the active opposition of a certain section of the bee-keeping community. The Government can scarcely

be blamed for relaxing its efforts to control the disease in view of the lukewarm support it has received from the persons who would have benefited had those efforts been successful. The only hope appears to be in the universities, the National Agricultural and Horticultural Societies, or in the last resort the wealthy benefactors, who might conjointly form a National Bee-keeping Institute for the improvement and development of the industry, the study of disease, and the improvement of the breeds of bees kept in the British Isles.

The lines on which further research should be conducted are more or less indicated by the results already achieved. The organism that causes microsporidiosis is known, its life-history is fairly well understood, and the conditions under which Nosema flourishes and the principal means of infection have been ascertained. What is now desired is a suitable treatment and a study of the conditions under which recovery can best be secured. It is, of

course, unwise to reason too closely from analogous diseases in other animals, but it is at least possible that the investigations that are being made into amœbic dysentery in man may give some clue to the discovery of a method of dislodging the parasite from its home in the cells of the bee's stomach, or of paralysing the activities of the "planont" before they are able to effect their lodging there. At the present time scientific research in bee keeping is almost at a standstill, and a new departure is needed. Is it too much to hope that some of those who have devoted themselves to the study of epidemic diseases in man should apply their experience in the service of a humble but useful form of husbandry?—From *Nature*.



Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

A. B. C. (Lancs.).—*Stimulative feeding.*—If you have a bottle feeder, continuous slow feeding is the best, giving the bees access to three holes. (2) No. (3) Yes. (4) It is very little use. (5) A micro-organism known as *Nosema apis*.

DEVONIAN (Devon).—*Variety of bees.*—Italian hybrids. Those you sent were inveterate robbers, and had lost all their hair through fighting.

MISS G. A. TUMEY (Suffolk).—*Latest time of year for introducing queens.*—It depends on the weather, but should be done by the end of this month if possible. They were both queens and both had mated. It is rather late for drones to be still allowed to live.

"EMS" (Sussex).—You could divide the bees, but it will be necessary to gradually move No. 3 until it is between Nos. 1 and 2, and not more than three feet from either. We cannot say why the bees should build comb independently of the foundation. When giving new shallow frame supers fitted with foundation only give a narrow spacing until the comb is partly drawn out. Extract the unsealed honey, and use it for present domestic purposes, or feed back to the bees. There are not likely to be many shows, etc., until the war is over.

J. E. J. (Portadulais).—Both queens had mated.

I. D. (Cambois).—The bees were probably infected when you got them, although no symptoms may have been apparent.

I. W. B. K. (Belvedere).—(1) The bees are supposed to attach the comb better to all sides. (2) No. (3) No. (4) Yes, much more. (5) Yes; if you are a member of the Kent B.K.A. get one of the "re-stocking" queens if possible. (6) An excluder must be used or the queen will go up if she is a good one.

J. M. BEST (Cornwall).—"Isle of Wight" disease reached Cornwall, we believe, two or three years ago. We have given the precautions to take to guard against infection a number of times. Keep everything about the bees and hives clean, take especial care that the bees have a constant supply of pure clean water. Medicate any food given, keep the hive supplied with disinfectant See that every stock is headed by young, vigorous queens, and their progeny will also be strong and vigorous and more able to resist disease. We do not think potato spraying has done much harm to the bees.

Honey Sample.

MANCHESTER HONEY (London, S.E.).—It is foreign honey of poor quality, and not well strained, mainly from Eucalyptus. At present prices should sell at about 8d. per lb., personally we would not buy it at any price.

Special Prepaid Advertisements

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per word as* "**Business**" *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ¼*in., or* 5s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

WANTED, first quality honey, in bulk, at 120s. per cwt.—LEE, "Little Bowden," Burgess Hill, Sussex. k 6

STRONG stock of healthy bees for sale, on 8 frames, 35s. (this year's top swarm); box returnable.—STANCLIFFE, Middleton, Pickering. k 31

BE the new remedy for "I.O.W." disease.—485 samples have been sent out, 12 sixpences have rolled in. And yet—in this locality—the remedy relieves in a few days. All stocks treated since March have recovered, given surplus, and are going strong to-day. A 6d. P.O. and a stamped, addressed envelope will bring you a sample sufficient for one stock. Your money back if no relief follows its use.—S. H. SMITH, 30, Maid's-causeway, Cambridge. k 32

EXTRACTED English honey, 130s. per cwt.; sample 3d.—DUTTON, Terling, Witham, Essex. k 33

TWO surplus 1917 Italian fertile queen bees, healthy, 4s. each if order received by Saturday, September 22.—CROWE, Stawell, Bridgwater. k 34

WANTED, first quality honey sample and price per cwt. to J. S. BREESE, Chemist, Rusholme, Manchester. k 35

FOR SALE, 5 W.B.C. hives, in good condition.—Particulars from G. E. GOODALL, 20, Vine-street, Stoke-on-Trent. k 36

WANTED, quantity mixed honey, suitable feeding bees, cheap, urgent.—BARUCH BLAKER, Barnham. k 37

BEAUTIFUL flowering mixed bulbs, daffs., narcissus, etc., 4s. 100., carriage paid.—BLAKER, Barnham, Bognor. k 37

FEW good specially selected fertile queens, guaranteed, 5s.—BARUCH BLAKER, Barnham, Bognor. k 37

WANTED, two strong lots driven bees, 1917 queens; state price.—DOCKERAY, Wye, Kent. k 38

A FEW 1917 Italian hybrid queens to spare; healthy and prolific; safe arrival guaranteed; 5s. each.—APIARY, Buckfast Abbey, Devon. k 42

WANTED, a good wax extractor.—DAVIDSON, Summerbridge, Harrogate. k 43

1917 surplus Carniolan fertile queens, 5s.—J. PALMER, Longford Farm, Market Drayton, Salop. k 39

WANTED, first quality honey, 1s. per lb., in bulk.—NEVILLE & GRIFFIN, Slough, Bucks. i 80

WANTED, large breeding cage, for white mice.—Particulars to MOUSE, BEE JOURNAL Office, 23, Bedford-street, W.C.2. k 2

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

FERTILE queens from 3s. 6d. each; bees at *Times* price per lb.—PRYOR, Breachwood Green. k 14

BEES WAX, in any quantity, 1s. 9d. lb. given.—CHARLES FARRIS, 71, Bishopsgate, London, E.C. 2. a 8

MESSRS. STONE & SON, LTD., Chemists, Exeter, are buyers of English Beeswax, in large or small quantities. Write, stating quantity and price required. a 3

FOR SALE, fine heather honey, 154s. per cwt., carriage paid. Healthy driven bees, strong lots, with queen, 8s., carriage paid. Naturally reared queens, 1917, 2s. 9d. each.—EDWARD BAKER, Bee-keeper, Pickering. k 41

DRIVEN BEES, 3s. 6d. per lot; carriage extra. Boxes returnable.—STEVENS, Dunkirk, Little Downham, Ely. k 40

"ISLE OF WIGHT" Disease permanently cured without loss of bees; solution, 1s. 6d. tin, post free.—PRESSEY, St. Elmo, Coulsdon, Surrey. a 9

ITALIAN Queens, direct from Italy.—Address: E. PENNA, Bologna, Italy. One pure fertile Italian Queen, May, 5s.; June, July, August, September, 3s. 6d.; Queens sent post free; safe arrival guaranteed; cash with orders. Addresses to be written very clearly. Special offers from September 1st till countermanded; four Queens at a time, 10s.; six Queens, 14s. 6d.; ten Queens, £1 4s. I book in advance orders with cash for Queens to be delivered in September at ordinary prices. Cash should be sent by English postal order, made payable to E. Penna.

HONEY AND BEESWAX PURCHASED.

Run Honey in bulk. Sections per gross.

HONEY FOR SALE.

Cuban, Californians, English, Irish.

Free tins and cases, carriage paid. Cash with order. Samples, 3d. Prices on application.

A. GORDON ROWE, 28a Moy Road, Cardiff.

LECTURES AND DEMONSTRATIONS ON BEE-KEEPING.

W. HERROD-HEMPSALL is open to give the above in any part of the country; providing his own lantern, slides, etc., demonstrating tent. **Also private instruction at pupil's own residence.** Terms on application.—W. B. C. Apiary, Old Bedford-road, Luton, Beds.

BURTT, Gloucester, FOR BEE APPLIANCES.

ILLUSTRATED CATALOGUE FREE ON APPLICATION

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Cpl. C. R. Forse (Hon. Sec. Staffordshire Bee-keepers' Association), School House, Trentham, Staffs—B.E.F., France: R.G.A.

Cpl. Berrisford, Haughmond, Cannock, Staffs—B.E.F., France: A.S.C.M.T.

Cpl. Bird, Whittington, Lichfield—R.F.C.

Pte. Harris, Hilderstone, Staffs—India: 2nd North Staffs.

Pte. G. A. Weetman, Harlaston, Tamworth—R.E.: Died of heat stroke, July 20, 1917, in Mesopotamia.

Pte. C. Jones, Salt, Staffs—B.E.F., France: Sapper, Royal Engineers.

Pte. T. H. Dean, Eccleshall—Light Infantry.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2., on September 20, 1917.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Messrs. C. L. M. Eales, J. Smallwood, A. Richards, G. R. Alder, G. J. Flashman, T. Bevan, W. H. Simms, J. Herrod-Hempsall. Association representatives:—W. Vallon (Staffordshire), Rev. T. E. Peters (Bucks), and the Secretary, W. Herrod-Hempsall.

Letters of regret at inability to attend were read from Sir Ernest Spencer, Messrs. T. W. Cowan, F. W. Harper, and Major F. Sitwell.

The minutes of Council meeting held on July 19, 1917, were read and confirmed.

The following new members were elected:—Mrs. S. A. Peter, Mrs. D. Chaffey Giddins, Mrs. R. Bryans, Miss F. M. Trayner, Rev. R. Tarbuck, Messrs. W. C. Peck, J. C. Fawcett, W. Hyde, C. A. Radice, C. J. Chapman, E. L. Vaughan, P. E. Wagstaff, E. C. Duchesne, and S. A. Peter.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank for July were £20 6s. 4d., for August £5 5s. The bank balance on September 1 was £127 18s. 7d. Payments amounting to £40 were recommended.

Reports on Preliminary Examinations held at Yeovil, Studley, Henwick and Stone were presented, and it was resolved that the following be granted certificates:—Mrs. M. G. Brett, Mrs. Tennant Bruce, Mrs. Chaffey Giddins, Misses Audry Argall, Madeleine Batchelor, Elizabeth Gardner, Muriel Godson, Hilda Glover, Aris Humphrey, Irene Johnson, Olive Menteth, Helen Sutherland, Molly Ball, Helen Cruikshank, Kitty Carden, Phyllis Daltry, Kathleen Forrest, Marjorie Fleming, Margaret Hazel, Edith Martin, Antonia Newman, Edith Nicholls, Enid Ormston, Joy Tillie, Elizabeth Wright, Messrs. E. J. Gosney, W. Bowers, W. Griffiths, E. Jacques, W. Vallon, and C. F. Weetman.

The report on the lecture test for the Expert Certificate (Final) held earlier in the day was presented by the chairman, and it was resolved to grant certificates to Mrs. E. Bisset, Messrs. S. Leedham and F. Hodgson.

It was resolved that no conversazione be held in October this year.

The Intermediate Examination was fixed for November 23 and 24.

Next meeting of Council October 18, 1917, at 23, Bedford Street, Strand, London, W.C.2.

A DORSET YARN.

The great number of eggs a queen bee will deposit in the cells in one day and every day in the breeding season seems like reading a fairy fable; text books will tell you the number, and reckoning their weight she will lay in one day nearly double her own weight. Many a listener, in the course of my long life, has told me they don't believe it, and challenged me to prove it. I could only show them some empty brood combs and let them reckon up the number of square inches, and then show them another one from a strong hive where the bees were just coming out of their cells, and show them as soon as empty they were again a cradle for another egg, soon to be another bee. No wonder at the average man, who knows nothing of the fecundity of the queen bee, not credit-

ing the assertion that she lays in one day nearly double her own weight. I remember years ago (when yarning of butterflies and moths) stating, in the course of my yarn, that many caterpillars eat twice their weight in food in 24 hours, and only increased their weight one-tenth. One of the audience told me to "Tell it to the marines, not to reasonable men"; so one had to give him chapter and verse in books on insects in order to convince him that it was so. There is still many a doubting Thomas about.

Text-books also tell you "keep your colonies strong, or the yield of honey will be poor." That is only too true, small swarms or casts are generally a long time before they have numbers enough to be able to store surplus honey. Where large swarms fill the brood chamber with brood comb, and go on increasing in quick time, and produce surplus honey in plenty, small swarms do not build comb fast enough for the queen to lay all the eggs she would. Lay as many eggs as she will, she cannot approach the white ant of the tropics which is the most prodigious egg layer I have ever read of: night and day she is exuding eggs, which the workers carry away and watch over and feed when hatched. She is too big and cumbersome to crawl about: it is many years since I read of them in Kirby and Spence "Guide to Entomology."

The bee-man who works his apiary for run honey, using standard instead of shallow combs, has a great advantage, in that each swarm in early summer can have the bars with fully drawn out combs given them, and the queen can go on laying eggs at once, then the stock will in a month be so much stronger, and surplus honey will be stored almost immediately. My friend, Squire Tomlinson, of Wimborne, is fully alive to this, he uses standard combs over the brood chamber for extracting, using again and again while the honey flow is in full swing, and after the flow is over they are cleaned out by the bees and stored away for the new swarms of another year. All this shows the practical bee-keeper, taking advantage of the fecundity of the queen, and giving her the fully drawn out comb in which to lay her eggs at "the double" instead of slow time.

The practical bee-keeper should make sure of good strains of bees. I remember looking over the combs of some hybrids before the racks of sections were put on, 8 out of the 10 had only a very small margin of honey on the top, the remainder being entirely used for breeding; no wonder they were strong, only good queens from good strains would produce so many bees. It is three years since I saw them, but they have been a great source of profit to the lady who bought them first. Storing so little honey in the brood chamber in the breeding season, and being strong in numbers, they soon stored away the surplus honey above. These are managed very successfully by the young lady who owns them in this village; they have one fault, the swarms often go so far away from the apairy, and are sometimes lost entirely. She has had them settle in the pine trees, and must have had a long ladder to secure them; but without doubt these hybrid queens are great egg layers, and the colonies cannot help but be strong. I am hoping next season with the bees at the Violet Farm, to have more time in the early summer to go over the combs, and take out more of the queen cells than I was able to do this season; that will give a still greater bulk of honey. There is a lot of valuable food wasted in this and the next county, of Devon, by the scarcity of bees. A late member of my staff (a conscientious objector to the Army) has gone to a farm in Devon. In a letter to me this week, he writes he has not seen a honey bee this summer, and this is on a 500-acre farm, in a rich farming district with rich red loamy soil.—J. J. KETTLE.

STAFFORDSHIRE BEE-KEEPERS' ASSOCIATION.

Owing to the energy of the secretary *pro tem*, Mrs. Saint, of Stone, this Association now shows signs of assuming its usual place in the bee world. The ravages of disease disheartened many of the members, who for a time gave up the keeping of bees. Quite a different feeling now prevails, many have taken heart, and are once again possessors of thriving stocks of bees.

On August 31 an examination for the preliminary certificate of the Britsh Bee-Keepers' Association was conducted at Stone by Mr. Herrod-Hempsall, F.E.S., the Secretary British Bee-keepers' Association and Junior Editor of THE BRITISH BEE JOURNAL and BEE-KEEPERS RECORD, in the apiary of Mrs. Stone, where the complete and admirable arrangements for the work made by the owner brought remarks of commendation from the examiner.

The candidates attending in the morning were entertained to lunch by J. Kendrick, Esq., J.P., whose energetic work for the Association and substantial support extending over many years has been the means of keeping it in existence. He is a bee-keeper himself, and a successful exhibitor both at the large shows, and in his own county. He has won many prizes and is the proud possessor of many gold and silver medals as tokens of his prowess.

The examination concluded about 4 p.m., the candidates expressing their thanks and gratification at the courteous and considerate treatment extended to them by the examiner, after which all present adjourned to tea at the invitation of the Secretary.

At 7 p.m. Mr. Herrod-Hempsall attended at the Town Hall, where a large number of bee-keepers had assembled to meet him. After being introduced by J. Kendrick, Esq., he gave a talk extending over an hour and a-half. Instead of giving a set lecture, those present were requested to name any particular branch of bee-keeping upon which they desired information. A number did so, and each subject was dealt with by the lecturer in his usual practical and lucid style. Many short questions were asked, and the prompt manner in which they were dealt with showed the master mind and elicited the admiration of all.

The lecturer then gave a demonstration on the wiring of frames, which was much appreciated.

A vote of thanks was accorded to the lecturer, on the motion of Mr. Vallon, seconded by Mr. J. Stoney, County Council Horticultural Instructor, to which the lecturer, in reply, said how pleased he was to meet so many enthusiastic bee-keepers, and trusted that he would soon be amongst them again to give what little help lay in his power. He proposed a hearty vote of thanks to Mrs. Saint and Mr. Kendriek for all their trouble and kindness, this was carried with acclamation.—*Communicated.*

OVER THE DORSET MOORS.

Great interest has been aroused by Mr. J. J. Kettle's articles, "A Dorset Yarn," and such interest is fully justified when one sees the man and his farm and bees as I did a few days ago, when I visited the Violet Farm at his kind invitation. Picture in your mind a lovely September day, soft air coming across miles of heather-covered moors, a glorious sky overhead, and in the distance far-stretching views of tree-crowned hill and grassy dale; such was the scene that met my eyes as I approached the Violet Farm, when wending my way from Broadstone Station. The farm lay in this ideal spot, and there in his orchard I found Mr. Kettle, sowing lettuce seed between his young fruit trees, thus utilising every spot for cultivation. His face glowed with kindliness and health, quick observance was in his keen eye, and a cordial greeting on his lips. Around him was the evidence of his hard work and clever handiwork—apple and pear trees bent down with their heavy load of fast-ripening fruit, a sight good to see, and the taste was good also. He told me much that was of deep interest as regards fruit production and the ways of trees. Then came the visit to his two apiaries, the part that most interested me. The hum of the many bees at work had struck my ear as I passed the house on my way to the orchard, and there in a sheltered spot, walled in on two sides, and bathed in hot September sunshine, stood rows of bee hives. I fear my heart was covetous. I *should so* have liked a similar spot for my hives, and in such a splendid district too! The hives are all home-made, and though they may not have had the jaunty air of brand-new, white-painted W.B.C. hives, they lacked nothing in utility, and their inmates were carrying out the Government's appeal to "speed up" and conserve every store possible for future use. The happy hum of many thousands of workers made pleasant music, as the little creatures returned from the moors laden with honey from the heather, or powdered over body and legs with gaily coloured pollen. The bees seemed to know their owner, for he opened hive after hive to allow me to peer into their fascinating depths. In each hive he places a fair sized piece of glass on the top of the section rack, or brood chamber, as the case may be, and thus he can at a glance estimate the progress made without unduly disturbing his bees. There are in all about 60 hives of bees, many only this year's swarms, yet from those gathering surplus honey he has taken over 1,000 sections. He runs his hives for section honey entirely, as the demand for them is so great and the sale so quick. These bees do not suffer from over attention, which is a great advantage, and hence they do good work. They have plenty of space given them in advance of their requirements, and they make the most of it. Two great principles stand out in this apiary, the hives though quickly made in spare time—of which Mr. Kettle has very little—are roomy, providing ample room and ventilation, almost all are double-walled, and secondly they are made of stout wood and are weather proof, having a heavy rainproof roof.

The short time I spent with Mr. Kettle was filled with talk about his bees and fruit, and the advancement of rural pursuits—and who could wish for anything more pleasant than to live amid such scenery and have so many interests in the outdoor world, in which one hourly sees the marvellous handiwork of God? All success to Mr. Kettle and his farm and bees, and may they all enjoy many more such golden harvest days as have been theirs this summer. If my bees do their part as well as his have done, I shall be

highly satisfied. The visit paid to the Violet Farm, and its owner's kindness in showing me round, will long remain in my mind as a pleasant memory. I might add that it was because I was on a visit to Boscombe that I had the opportunity of going to Violet Farm.—MARY WHITE-JOHNSTONE, Reigate.

STANDARDISATION OF HIVES.

(*Continued from page* 294.)

I find the 20-in. square area very satisfactory, not too large and not small, in effect ideal, and the increase in bulk of 1-in. width is little, while it makes a compact structure. The effect is to favour the use of timber of varying thicknesses, without encroaching upon the elbow room of the inner chamber in either of its positions, an advantage this, where the amateur hive builder wishes to supplement the hive capacity with his own work, and such timber as he may happen to find, or have to take. While this question of standardisation is to the front I would like to see the abolition of that unsightly abomination and element of hive decay, the outer plinth. It has held the field for many a day, and may do yet possibly, though little by merit. No part of my bought or own-made hives give the worry and trouble, nor bring the damage to plant that outer plinths do. I am very glad there are not many subject to it. Exposed to fierce heat of the summer sun, then later to the disintegrating effect of winter moisture, rain, snow, sleet, and frost, they creep, crawl, open and shut, until it is impossible for them to serve their purpose without constant attention with paint and putty. Even so, the result is rarely satisfactory; wet gets a permanent lodgment to the detriment of the structure and all within it. The pottering and tinkering often makes things eventually worse. Timber for a long time past has not been the seasoned material of older days. I have a few old hives with as perfect plinth joints as ever. Their day is past, and the day of "green" timber is present, and likely to continue now for a very long time.

I would advocate no standardisation which omits to erase this evil half so strongly as the one which would abolish it completely, for double hives, at all events. It is easy to do so, and to accomplish it with all my later building I have made every outer chamber telescopic in character, splaying the boards by discarding the square-cut end for an angular or bevel cut. Each chamber overlaps its support ½ in. or more, and an inside plinth is fixed, nailed from outside and the nails clinched. The splay of the chambers enables me to maintain a 20-in. dimension on the top edge of each so that any piece, from any hive, will interchange at any point with any other hive, and the same, or any roof, will fit any chamber or lift at any point when tiering or reducing. I get angular-cornered hives of perfectly clear outer surfaces, which will shed all rain, and retain no moisture, keeping all joints as dry as a bone, and preserving perfectly the woodwork of the hive inside, and all within it. The outer cover of brood chamber is splayed likewise, and encloses the floor-board completely on three sides, and a detachable combined flight-board and porch protects the other. These hives give me unbounded satisfaction, and I will never make or purchase another outer plinth execration but on the direst necessity.

Such hives take a little more careful making, but there is no difficulty. Merely use a carpenter's adjustable bevel instead of the usual set square.

This and other matters in construction may well be thrashed out, and a standard "W.B.C." hive put forward without delay, as probably the most we may achieve at present in the way of standardisation of hive patterns generally. There are too many bee-keepers parted from their bees just now, for the whole field to be fairly and thoroughly considered. As to the suitability of the double hive, there can be no question. It is the one which would have first acceptance, and we are on safe ground in proceeding with it forthwith.—M. ATKINSON.

EXTRACT FROM "L'EXPORTATEUR FRANCAIS," AUGUST, 1917.

THE ITALIAN BEE-KEEPING INDUSTRY LACKS HIVES.

Now that sugar is State controlled it is perhaps well to point out how greatly the value of honey has increased. Consequently the Federation of Italian Bee-keepers of Ancone are endeavouring to encourage bee-keeping. In the region of Port Maurice, however, where hitherto, especially in the mountainous district, bee-keeping was popular and successful notwithstanding the rudimentary system employed, it has of late greatly decreased, mainly owing to the prevalence of "Isle of Wight" disease. It follows that there is an entire lack of the perfumed honey of the Italian Alps. The limitation of sugar in food products and for cooking purposes has, however, incited farmers to return to bee-keeping, but they lack hives, that is to say, they lack hives of a serviceable kind such as are for sale in France at a reasonable price. Could not the French manufacturers profit by this indication and induce the Italian bee-keepers to adopt their type of hive?

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

SWARM CONTROL.

[9529] Replying to Mr. G. M. Ellison (9525) in your issue of September 20, I manipulate the gradual access of bees to the first super on the following plan. To begin with, I winter my bees under ticking as first layer over frames; in spring, say, April, I remove the ticking and replace same by American cloth, not in one piece, but cut up in strips 17in. long by 3 to 4in. wide. These narrow strips greatly facilitate operations, as when examining combs no more frames need be uncovered at a time than necessary, and when adding more frames, an extra strip of cloth is easily laid on top without disturbance to the rest of the brood frames.

Assuming that the brood chamber contains 10 frames, and is ready for supering, then my *modus operandi* is to lay the excluder, the new wire queen excluder preferred, on top of the American cloth quilt, put shallow frame box on top of excluder and place in same at one side, first a division board to act as double wall, then two drawn out shallow frames of worker comb, and close these in by a double walled dummy filled with cork-dust to economise heat and fitted with rubber beading, such as is used for preventing draughts, at sides and bottom to ensure a close fit. This dummy I rub well round sides and bottom, also along inner top with vaseline to prevent undue propolisation. Now, lay a sheet of transparent celluloid 17in. by 8in. on top (this is cut wider than the two frames and dummies to allow sufficient room for two more frames), then lift the super and excluder a little, and withdraw the strip of American cloth, which must be loosened beforehand, from the top of the two brood frames just below the two shallow frames to give the bees access to the latter, and the thing is done without a single bee having taken wing.

When adding more frames to super the corresponding strip of American cloth over brood frames must, of course, be removed. The top of super box I cover with a cushion cover or bag filled loosely with cork-dust, which can be tucked into place, and keeps all snug and warm.

Years ago the late Mr. J. H. Howard made these double-walled dummies, as described, for me, and I then employed same with success when commencing supering two colonies with Wells' hives.

As regards the size of transparent celluloid sheets, two pieces cut 17in. by 8 in. will cover the top of an 8 shallow frame box, or one piece 17in. by 16 in. I regret I cannot at present disclose the name of the maker of these sheets, as I have to obtain first the consent of a friend of mine who got them for me as a special favour; I will, however, with pleasure endeavour to obtain his consent, and, if granted, make the address known through this Journal.—O. PUCK, Chingford.

THE PRICE OF CANDY.

[9530] I felt I should like to thank Messrs. Pascal for their letter of explanation, and also for the patriotic spirit in which they have dealt with the whole matter of making and supplying the candy, and, at the same time, point out where many bee-keepers think Messrs. Pascal have been misdirected.

I am a grocer, and, as I have been in the habit of making my own candy, I have generally found that the moisture added to the sugar covered the cost of making it into candy. Last year I could not get sufficient sugar even for my customers, and as we are retailing the best cane lump sugar at 6d. per lb., and the candy was to cost 1s. per lb., I did not drive any bees at all. When the people asked me to drive any bees, I simply told them to use the sulphur. This occurred in a good many cases, and in others the bees died, owing to not being given enough candy through the high price. In my own case I saved sufficient honey to be able to feed them in the spring. The price of candy should not have been more than 8d. per lb., and then hundreds of stocks of bees would have been saved, and the tons more honey that would have been gathered this year would have kept the price down.

This year bee-keepers will have to pay extra attention to the store of their bees. Owing to the bad weather they have been unable to gather any honey all through August, so that they are not breeding so fast, which will mean weaker stocks for wintering, and consequently fewer stocks living till the spring.

Now what I have been trying to show is that the honey production of Great Britain would be increased more by selling the candy at the lowest possible price,

than it will by handing over the £150 profit to the Agricultural Association, although they may use it wisely and well. Messrs. Pascal's statement that their price was not above that of the firms supplying bee goods leads one to think that was the reason of the high price fixed. I have found that ten out of every twelve bee-keepers used to make their own candy, but now, as they cannot get the sugar, the nation have been the losers, by less fruit, as well as less honey. My fruit trees, as well as those of my neighbours, have been loaded, and Mr. Kettle's long rows of fruit trees are a picture. I promised him I would go up and take a photograph or two for the B.B.J., but the weather has hindered me so far. He describes them so well in his Dorset Yarns that one can guess pretty well what they are like.—S. A. W. Tomlinson.

THE STANDARDISATION OF HIVES.

[9531] You correspondent, Mr. H. C. Harman, fails to understand the meaning of my letter (No. 9512), on what I mean to convey on the "Question of Standardisation of Hive" numbers. I took the W.B.C. hive as an illustration of my point, as this hive is being most universally used. Now I suggested this was called No. 1, this would be the W.B.C. hive in every detail, with its 10 frame capacity. There are many bee-keepers who like that hive, and would like it better had it, say, 11, 12, 13 or 14 frames, instead of the 10 frames. What I suggested was this, that the hive be made exactly as No. 1, but a little wider. This should be standardised as follows:—11 frames No. 1A, 12 frames No. 1B, 13 frames No. 1C, and 14 frames No. 1D, and so on; by this method you keep the pattern to itself. I do not, as Mr. Harman suggests, restrict myself to three standard numbers; no, this would be putting a bar on progress directly. My idea is simply this, that each pattern hive should be kept strictly to itself, and the letter after the standard number to indicate the number of frames it contains, and not standardise every hive that is being made, or you would get so many numbers, which would be very confusing to those thinking people mentioned by Mr. Harman as "nigh enough." Working drawings could be made of the W.B.C. No. 1, accompanied with width, measurements of No. 1A, B and C, and so on. This to my mind would be proper standardising. These should be available from the British Bee-keepers' Association for all manufacturers, and bee-keepers who prefer to make their own hives, for a few pence, and also published in this valuable little Journal. Hoping I have made myself understood by your correspondent. In conclusion, I should like to say your correspondent Mr. O. Puck, of Chingford, is a very fortunate man to have his W.B.C. hives all interchangeable, and were all hives like his, interchangeable with one another, this standardising would not be needed, but perhaps your correspondent purchased his from one maker alone?—Ernest E. Brown.

BEES AND WHITE CLOVER.

[9532] Every bee-keeper who has kept bees and observed them for many years cannot fail to notice many things that are not recorded in books, and it is such an observation that I wish to place on record. In front of two of my hives white clover has grown spontaneously. The hives were about 50 yards apart, and there is no white clover growing within at least 100 yards. None has grown anywhere else in the garden. My object in asking your aid is to ascertain whether any other bee-keeper has noticed white clover growing near the hives and not elsewhere in the vicinity. I may mention that no stable manure has been used in my garden for 30 years, so that this origin for the seeds is excluded.

It is not suggested that the bees have themselves planted the clover seeds, although in view of the marvellous achievements of the agricultural ants of America this would not be beyond the bounds of possibility. What I am anxious to ascertain is whether the observation I have made refers to a casual occurrence, or whether any other bee-keeper can corroborate it from his own experience.—W. F. R.

BACTEROL AND "ISLE OF WIGHT" DISEASE.

[9533] I was very pleased to read in W. J. Gibbs' reply to my note *re* "The treatment of 'Isle of Wight' disease with Bacterol," that he has been successful in treating his infected stocks, and I congratulate him upon his success. In case he should have any doubts about the thoroughness of my application of the supposed remedy, I should like to give the following particulars of my method of treatment.

My infected stocks were each sprayed on the combs with a strong Bacterol solution at least three times each week; the worst cases were treated daily. I went so far as to use Bacterol 50 to 100 per cent. stronger than stated in directions. My treatment had a marked effect for a few days, but the disease asserted itself as soon as I relaxed my efforts, and three stocks have had to be destroyed after the most persistent efforts to save them. I may

say one lot, a hybrid Italian cast, developed "Isle of Wight" disease and perished whilst taking Bacterol candy most ravenously. I have now three more of the infected stocks still hanging on, but which show symptoms occasionally.

From my experience I have been brought to the following conclusions:—

In the first place, I believe there are cases of "Isle of Wight" disease for which there is no remedy known to science, and I believe the advice given in the Annual Report of the Association is excellent advice: "That badly infected stocks should be immediately destroyed." My opinion is that if bee-keepers had been compelled to deal with "Isle of Wight" disease as the authorities deal with swine fever, it would not have been the blow to Britsh apiculture that it is.

Secondly, I believe, with J. Pearman (9516), that Bacterol is the best thing on the market for bee-keepers at the present time: it is a most excellent disinfectant, and by its use the disease can be kept within limits, and possibly prevented altogether. I have had no fresh cases recently, and I attribute it to the constant use of Bacterol.—J. Valley, Jnr.

HUMOURS OF BEE-KEEPING.

[9534] Bee-keping is, on the whole, a rather serious pursuit. Its few jokes, though good, are not well worn.

The Kent Re-stocking Scheme has provided material for a smile or two, and as the chief actors can now laugh with us I pass on the following:—

I. A nucleus had been dispatched with the usual request for the immediate return of the travelling box. The secretary, feeling a bit uneasy, followed the bees, and arrived in time to see the beginner trying to fit the frames into a skep!

II. A member told me last week that when her four-frame nucleus arrived the bees were very bad-tempered — stinging everybody in the neighbourhood. On my expressing surprise she told me that a friend "who understood bees" had come to help her. He, having unscrewed and removed the travelling box lid, had then tried to throw the bees on the tablecloth spread before the hive. The result was *not* a joke.

III. A fortnight ago (I am told) a man was seen wandering about the park in a Thames side town. He was evidently seeking something. At last he approached a park-keeper with the query, "Where are the monkeys?" "The monkeys? We have no monkeys." "But," said the enquirer, showing a press cutting, "It says here that the Parks Committee has established a model apiary." — John W. Price.

PRESS CUTTING.

DONKEY STUNG TO DEATH BY BEES.

On Wednesday at Farnaught, Mohill, a valuable donkey belonging to Mrs. Easterbrook was stung to death by hive-bees. In his curiosity, the donkey upset a beehive, with the result that the bees swarmed on him, and he paid the death penalty in great agony in less than two hours. In a vain effort to drive off the bees from the poor brute, Mrs. Easterbrook herself received no less than 17 stings.—From the *Dublin Evening Telegraph.*

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

Enquirer (Holywell).—*Variety of bees.*—They are Dutch.

Worcs. (Birmingham).—*Suspected queenlessness.*—The queens are probably all right. Many of them have ceased laying now.

W. Clarke (Cheltenham).—*Disinfecting hives.*—(1) The best plan is to scorch them with a painter's lamp or apply with a brush two parts Bacterol or Izal to one part of water. (2) It is safer to destroy the frames and sections. (3) Melt the comb down for wax. (4) Yes. (5) It would probably be safe if treated as you suggest, but we would prefer the disinfectants given above. The tinware should be washed first with boiling soda water, then rinsed and washed with disinfectant and water, rinsed again, and dried. Scrubb's cloudy ammonia will remove prepolis from dividers and exciuders, and may be used for these articles instead of the soda water.

A Regular Reader (Bucks).—*Using remedies for "Isle of Wight" disease.*—The best method with almost all remedies is to give them in the food, as they then reach the seat of the trouble—the stomach and intestines. If there is not a hole in the top of the skep, cut one about two inches across. A pad of cloth will hold a feeder in position, and it may be covered with another skep or a round box, so that other bees cannot get at it. The symptoms point to "Isle of Wight" disease. Directions for use are given with the remedies.

C. Noble (Lincs.).—*Feeding with honey.*—You are doing quite right in boiling the honey, but before doing so add a little water—say, four to six tablespoonfuls to each pound. When cooled down and lukewarm add the Bacterol, one teaspoonful to each pound of honey.

Workman (Dalry).—You can get the A.B.C. and X.Y.Z. from the A. I. Root Co., Medina, Ohio. The price is $2.50, and postage, but we do not know what the latter item will amount to.

H. C. M. (Rusholme).—Better continue feeding for another week; give the syrup warm.

G. M. K. (Paignton).—We cannot see that your management was at fault. The bees were evidently determined to swarm, and nothing you could do would prevent it. Try a fresh strain of bees next year. Keep the hives supplied with disinfectant. You cannot then do much beyond what you are doing now. We will try and give you a fuller reply next week.

J. WINTER (——).—Please read instructions at head of this column, and send address in future, or no reply will be given. We hope you will recognise the name, as we are unable to make out your signature with any degree of certainty. Use the white sugar, make into syrup with half a pint of water, half a teaspoonful of vinegar, and a pinch of salt to each pound; boil for a few minutes. You will find recipes for bee food in the British Bee-keepers' Guide Book. Pollen carrying is a good sign. If the bees are weak drive them and unite to those in the boxes. Ordinary flour is better than peppermint syrup. The latter is made by dissolving a couple of tablespoonfuls of sugar in a pint of water, then add a few drops of essence of peppermint. Two teaspoonfuls to a pint. Wrap the skeps up and cover with something that will turn the rain and keep them dry. It will be better to cover the boxes also. The bees from one box or skep should work down and fill a W.B.C. hive next spring.

VERACITY (Wexford).—(1) They should be safe after that treatment. (2) Not if they have plenty of honey stored in the combs. (3) Not more than others. It is generally the second crop that is worked, when the heads are smaller.

Honey Samples.

W. G. WALES (Cornwall).—It is clover honey with a little ragwort. The latter will account for the flavour.

B. McCOY (Lincs.).—A very good sample of clover honey. 140s. to 160s. per cwt., 1s. 9d. per lb. jar.

Suspected Disease.

L. G. (Yorks.)., A. ROBBINS (Middlesex), Miss C. BOWDEN-SMITH (Brokenhurst).—The bees are suffering from "Isle of Wight" disease.

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2 CWT. light English honey, 160s. per cwt, f.o.r. Sample ½lb. 1s. 1d., post free. Five dozen well-filled sections, 18s. per dozen, f.o.r.—HULL, Bee-keeper, Barrow-on-Soar, Leicestershire. k 45

2½ CWT. finest quality pale clover honey, 160s. per cwt. Samples 3d.—Address, EXPERT, BEE JOURNAL Offices, Bedford-street, Strand, London. k 46

FOR SALE, finest quality glazed sections of honey, 18s. per dozen; packing box 6d.; carriage forward on goods train, or carriage extra on passenger train; cash with order. Also a few 1917 Dutch queens, tested, at 5s. 6d., in cage, post free.—W. WOODLEY, Beedon, Newbury. k 47

FOR SALE, 21 sections, a mixture of heather. What offers?—Apply, MITCHELL, care of Moorpark, Renfrew Post Office, Renfrew. k 48

THE new remedy has been distributed in 27 counties. The 6d. charge was primarily to prevent wastage. Those who sent sixpences may have them returned if no benefit resulted. No requests for a free sample from affiliated bee-keepers has been nor will be refused, when accompanied by a stamped, addressed envelope, but now the season is closing this offer will hold good only until October 7. Reports, favourable or unfavourable, are desired; a postcard will do. Next week will appear an interesting offer for 1918.—S. H. SMITH, 30, Maid's-causeway, Cambridge. k 49

FOR SALE, 2 Taylor's hives, clean, good condition, cottage, 10 framed, 6s. 6d., large 16s. 6d.; excluders, etc., half price.—COURT, Bungalow, Honey-hill, Whitstable, Kent. k 50

1917 SURPLUS hybrid fertile queens, 4s.—BARNES, 20, Bourdon-road, Anerley, S.E. k 51

FIVE DOZEN good sections, mostly heather honey; first cheque £6, packed and carriage paid.—W WOODS, Normandy, Guildford. k 52

WHAT offers for 5 stocks on 10 frames each?—A. NICHOLLS, 38, Oxford-road, High Wycombe. k 53

FOR SALE, stocks of surplus bees, healthy, 1917 queens.—MISS BIRKBECK, Kirkby Stephen, Westmorland. k 54

WANTED, dark honey, for feeding purposes.—E. PRESSEY, St. Elmo, Coulsdon. k 56

WANTED, Standard frames, filled with stores.—St. Elmo, Coulsdon, Surrey. k 56

WANTED, first quality honey, in bulk, at 120s. per cwt.—LEE, "Little Bowden," Burgess Hill, Sussex. k 6

WANTED, large breeding cage, for white mice.—Particulars to MOUSE, BEE JOURNAL Office, 23, Bedford-street, W.C.2. k 2

FOR SALE, by W. HERROD-HEMPSALL, Old Bedford-road, Luton, Ariel 3½ h.p. Motor Cycle and Side Car, in perfect condition; any trial or expert examination allowed; spares, belt, in leather case, two tubes, one cover, valve spring, back axle; all wheels fitted with Peter Union bands, back to saddle, horn, speedometer, three acetylene lamps, special luggage carrier on side car to carry two gallon can of petrol and one quart oil can, in addition to luggage, kick start, three speeds. Ridden by above, to be sold on account of medical advice; offers, or will exchange for Player Piano.

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

BEES WAX, in any quantity, 1s. 9d. lb. given.—CHARLES FARRIS, 71, Bishopsgate, London, E.C. 2. a 8

A HINT.

The successful bee-keeper, as we have often pointed out, is the one who profits by past experiences, be they of success or failure, and looks ahead and lays his plans for next season in good time. Those who need appliances will be wise if they place their orders now. Labour and materials are both difficult to obtain, and it will be a great advantage to manufacturers and customers if orders are placed early, so that the goods may be made up during the winter time.

THE BUCKS COUNTY BEE-KEEPERS' ASSOCIATION.

The Association has increased its membership during the year, and now includes about half the bee-keepers in the county. Mr. Hogsden recently toured the county on behalf of the County Council. He visited 268 bee-keepers, who had 1,032 stocks, of which 805 were in frame hives and 227 in skeps. In some of the southern districts there were no skeps, but in some of the northern districts there were no frame hives.

He reported that the year had not been good as regards honey production, but that, with three exceptions of "Isle of Wight" disease, the stocks were strong and healthy. The Association has given lectures at the County Economy Exhibitions at Aylesbury, Buckingham, Chesham and Bletchley, and demonstrations at Chesham and Gerrard's Cross.

It is intended to give winter lectures in different centres. Four members of the Association—three being members of the Committee—have obtained certificates for proficiency in bee-keeping, and it is hoped that other members will follow their example, and that soon there will be a number of bee-keepers in the county able and willing to help the bee-keepers in their neighbourhood.—*Communicated.*

A DORSET YARN.

The pollination of flowers by bees has been known for centuries to horticulturists; they also know that there are other agencies of pollination as well as bees. Flowers that open at night, when all bees are inactive and are mostly in their hive-homes, would not be fertilised but by insects. There is the Nottingham catch-fly that opens at night, and varieties of moths are hovering over the flowers. These Noctua, or night-flying moths, play a great part in pollinating flowers. There is one fruit which, to me, has always been a mystery—that is the fig. I remember as a boy watching the progress of these peculiar fruits, that never seem to open at all until they split when quite ripe; yet, when you eat them (particularly the large varieties), the sweet, luscious pulp is full of seeds. I have read that an insect lays its eggs in the centre, and the small caterpillar pollinates the flowers in its peregrinations round the interior; but through all my life I have not seen a wound where the insect went in or came out, so I am still mystified as to the pollination of the flowers that are within.

Some flowers are pollinated by the crawling caterpillars of moths; for instance, the yuccas. A moth, called the yucca moth (*Pronuba yuccasella*), lays its eggs on the flowers, and the crawling caterpillars pollinate the stigmas in their peregrinations.

I have noted the honeysuckle many times; sweet as it is, it rarely has but a few seeds mature after the flowers are gone. I have seen wasps bite a hole in the tube to get at the sweetness, and some moths hover over them at night, with their long spiral tongues trying to get some of the seductive sweets.

Many flowers (that are what is termed by botanists perfect flowers) will pollinate themselves: the sweet pea is one of them. If you want to cross them, the parts covering the anthers must be cut away and the male parts removed entirely; then the flower must be covered with coarse muslin to keep the bees from getting to it, or they will pollinate it with some colour you do not want. When the stigma is ready for crossing the colour you want to cross must be taken to it by hand. There are very few really good chance varieties.

My experience of the Leguminosæ family is they are self-fertile; though bees work them largely for nectar, the crossing through their agency is rare. The French bean is the same; bees visit them all, but the flowers produce seed true to type, with very rare exceptions, proving that they are self-fertile. The Linaria (toad flax) and antirrhinums are the same; many varieties of bees will visit them, but the seed comes true to colour in general.

One of the most wonderful instances of pollination is the *Valisnera spiralis*. It grows at the bottom of fresh water lakes with creeping growths that root on as they spread away from the plants. The male flowers are produced on these creep-

ing growths in little globular balls, which are watertight, and as they grow they fill with air, which eventually breaks them away from the plant at the bottom of the water; they then rise to the surface and float about, being full of air. The female flowers also develop on the creeping growths at the bottom of the water, but they have a long spiral stem to them that takes them up to the top of the water. The warm sun will open the flowers and the petals fall back on the water in angles round the stigmas, keeping them high and dry above the water. The little round male flowers also burst open with the sun; their petals fall backward until they are like little boats joined together in the centre with the plume of pollen standing up in each of them (Nature always seems to send abundance of male flowers); they float about and they are moved by the wind near the female flowers until they are fixed in the angles formed by the petals of the female flowers; then the dry pollen of the male reaches the stigma of the female, and the pollination is complete. Then the wonderful mechanism of the plant begins to develop; the long spiral stems contract (like a steel spring pressed together) until the seed pods are brought once more to the bottom of the lake. There they stay till the seed is ripe. The new race springs from the seedlings, and each year this wonderful pollination takes place. This is not hardy in this country, but it is grown under glass where aquatic flowers are favoured in the beautiful gardens of England's wealthy citizens.

The violets are self-fertile, though bees are now (the fourth week in September) going over each flower (when the sun deigns to come from beneath the clouds). It is wonderful that they go from flower to flower, yet they never (or rarely) cross them. They come true to type. Blue is said to be an attractive colour to bees, but I have not seen it so; the plants they visit most are not blue, and blue is the scarcest colour in the whole European flora—only 10 per cent. of the whole are blue. True, bees work the sage, lavender and the blue alkanet (the Anchusa); the scent of the violet attracts them most. I have one instance of a new violet I have that was crossed by ants—the small yellow one (*Fornica Flora*). I noticed one plant of an Australian violet that had very large seed pods, where these little creatures had been having a good time at the end of the rows and close to the grass. On sowing the seeds and taking care not to lose one plant, after a few months they flowered. Only one plant was entirely different to either parent, 80 per cent. were like the Australian parent, the rest types of Princess of Wales (a large single blue).

I assumed that the ants, attracted by the sweetness of the flowers, were able to pollinate successfully one of the flowers of the Australian violet from the other large blue. I have sown and grown many seedlings of these large singles, but have never got a really distinct advance, yet the bees visit them very largely.

Just now the blue gentian of the moist heathlands is in flower; it is wild and common on the damp moorland round Broadstone and Corfe Mullen. The bees are on the ling heather, and I notice they visit the gentian as well. This is one of the class of flowers that close at night and close when it is going to rain. This family, as it grows, is what is correctly called decussate; that is, at each node of growth there are a pair of leaves, one pair to the right and left, the next pair to the back and front. The flowers come out of the axils of the leaves, and when going to rain the leaves close up close to the stem, closing the flower buds within them. Some of the dwarf varieties close up the flower entirely on approaching rain. It calls to memory a few lines I used to repeat when yarning on "Slumbering Plants":—

"Oh, would my heart were like to thine,
Thou dark and lovely flower,
Open whene'er the sun doth shine,
But closed against the shower;
Gladly receiving all that's bright,
Refusing all that's ill,
Conscious of tempest and of blight,
But pure and shielded still.

"The tempest broods—how keen thy sense—
Each leaf is folded fast,
And thou hast made thy self-defence
Against the sweeping blast.
Harmless the winds have passed thee by,
The raindrops find no rest;
Lightly they fall, as tear or sigh,
Upon thy guarded breast."

I found it in an old book of oddments for repetition years ago, but it exactly shows how plants that have the decussate style of growth go to sleep at night, as this, and the common chickweed closes its leaves and shields the seed organs against the rain and heavy dews of night.—J. J. KETTLE.

SIGNS OF THE TIMES.

This fearful world-war has caused such tremendous upheavals in every direction that after more than three years of it we have got to the stage when anything less than a bomb dropping near the back door is looked upon as a commonplace event; but when carefully perusing the

pages of the current issue of the B.B.J. I have come to the conclusion that "wonders will never cease," for in the advertisement column appears in bold, black type an announcement that the Staffordshire Education Committee are in need of an Expert and Lecturer on Bee-keeping, for which they offer a salary that should command the services of a really qualified expert.

This step revives an idea that has lain dormant in my mind for some time, relating to the Bee-keeping industry generally, and the matter being taken up by so responsible a body, gives rise to the hope that this is only the thin end of the wedge, and we may safely expect the thick end to follow.

Now as regards my idea. It has occurred to me on many occasions, when visiting the apiary of bee-keepers, generally men of mature age, that very little good can result from our Association Experts' visits to such people, whose opinion of him can be summed up as follows: "What does he know about bees?" especially when he advocates taking drastic steps with diseased stocks, etc. No, Mr. Editor, we shall have to start at the root of the matter, and now we find County Education Authorities so deeply interested, we can reasonably hope that the day is not far distant when Bee-keeping will be included in the school curriculum of all rural schools at least. It is a subject that could be linked up with the manual training centres, where "learning by doing" is practised at the present time to such good effect that when "play time" comes round the boys look upon the break in the proceedings as a nuisance, and reluctantly leave the room. Now why not have, say, two stocks of bees in every school garden, and at seasonable times take the boys and girls (the number limited) and give a lesson on practical bee-keeping, which should be taken by a member of the teaching staff, who should hold certificates of proficiency in the craft. Both the woodworking and metal working centres could be kept interested by making the numerous necessary appliances, which would form splendid exercises for "hand and eye training," and the ultimate result would be to produce a race of scientific bee-keepers who would eventually supersede the "rule of thumb" type so frequently met at present.

The element of danger to which the pupils would be exposed would be far less than the risk taken at present with the various keen-edged tools in use at the Centres, and veils for the nervous children, if any, could be provided at small cost, and as regards the financial side of the question, the cost of starting the scheme would—given fair surroundings and capable management—be covered by the surplus obtained by the end of the second season, in proof of which my experience this year may prove interesting:—Starting in the spring with twelve stocks, I finished in autumn with twenty-one stocks and over half a ton of surplus honey, the value of which, together with stocks sold to keep the apiary within manageable limits, is, to say the least of it, in these times, useful, especially in view of the fact that it represents the result of a spare-time occupation.

E. Jacques.

EXPERIENCES IN 1917.

The season of 1917 has been the most busy one that I have had. I packed up four stocks last October. One of them I had bought in the spring, this one with all the stocks, twelve in number, belonging to the friend I got them from died by Christmas with the "Isle of Wight" disease. In February, when the bees began to fly, I noticed crawlers from one hive. I worked hard to stop this, using Izal and Bacterol, and sprayed the bees as soon as it was warm enough, picked up all dead bees, and dug up the ground and used quicklime on the ground, and many other things I did too numerous to mention. At last, when they were very weak and the bees began to fly away, the crawling stopped, and I felt that I had won. I have been fighting this disease since the week the war started, and although I have lost a number of stocks I have never lost all.

I bought another stock to take the place of the one I lost at Christmas; this one I kept where I work, and the other three at home. Now the two stocks that came through strong set to work with a will. One of them was ready for the fruit blossom, and gave me my first box of honey before the clover was out. Both these stocks swarmed; of course they waited till I was forty miles from home one day with the car. When I got back my wife said very proudly that she had got a swarm for me; a friend of mine came and took them for me, so I went to feel the weight of them in the skep—and I counted six bees in it! I spent an hour looking round; at last I found a woman who told me she had seen a lot of flies in a garden by the river side, so I went, and sure enough the swarm was in the middle of a small tree near to the road. I had quite a large company to see me take it, some

One man wanted to know if I had got the dust pan, another wanted to know if I had got a bunch of nettles. In the meantime I had got an old chair without a back, and a paste board ready; I was able to get my skep under them, and with a good shake every bee dropped into it, and it was nearly full. I put them on the paste board and a cloth over them till dusk, and to-day they are on eleven combs, flying strong, and not a dead bee or crawler to be seen. The other swarm, after making a nucleus, I put back. From these two I got over 140 pounds of honey, and as they are surrounded by potteries and iron foundries I think it is very good. We cannot get the amount of honey in our district than some do, but we are very pleased with what we do get. We have had two exhibitions, one in the town near by, and one in our own village. I took all my things, and a small observation hive and gave a talk for 2½ hours on the opening day. My friend, Mr. Hollingsworth, took his things, and gave a talk on the second day. We had a fine time, a crowd all the time. One thing was very interesting to the people, the young bees were cutting their way out all the time. The show at our own place I had all on my own. It was in a large shop in the main street, so, living near, I took bees in hive, honey in shallow-bars, and extracted it and put it into bottles, and, of course, sold some. I got in all 175 pounds of honey this year, it being my best year, and have sold nearly all at 1s. 6d. a pound. I have sold the stock for 35s., and lent £10 of bee money to the Government, so that you see my bees are helping to win the war. I have bought 60 lbs. of candy for 50s., and am pleased with it. I think the trouble that it must be to prepare, and pack, and deliver 60 lbs., 120 miles away, for 50s., is not too much in these times. I am still delighted with our little paper: I read every line. Am delighted with "A Dorset Yarn." If Mr. Kettle lived where I do he would have a very different yarn. I have read that both he and you are musical, so am I, and have been a choir member 40 years. I sang my first solo when I was 8 years old, have also led choirs and sung in choirs many times; in contests have been in at the winning of more than thirty prizes. Have you ever noticed the tone of the bees' hum? It is B flat on a wet day, on a fine working day B natural, on a swarming day it is B sharp; the tone of a robber is B sharp. A boy at the Front whom I write to says how delighted he was to receive a jar of honey, it did help his rather dry bread down. I hope our bee friends will send the lads at the Front a bit of honey sometimes, they deserve all we can do for them.—GEORGE WARD.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

STANDARDISATION OF HIVES.

[9535] I must thank you very much for the BRITISH BEE JOURNAL, which I receive regularly from your office each week, and it is read with much interest. I may say that I have only seen about a dozen hive bees while I have been in France, and those during this year. I have only seen three hives, which were of wood. I saw them as we were passing in the train fourteen months ago, so I had no chance to stop and examine them. I am very much interested in the letters on standardisation of hives which are now appearing in your Journal, and have taken the liberty to put a few of my views in writing.

I quite agree with your correspondent on page 294 of September 20 issue that something should be done towards same, also that the double-walled hive on the W.B.C. principle is the best. But owing to the different makers using different size materials in construction it alters the sizes of the different parts.

Well, to commence, the thickness of material that should be used for the different parts should be specified, as in future the cost of the raw material alone will be a serious item. The best way to do that would be to specify it finished planed; for instance, a ¾ in. board machine planed would finish about ⅝ in. or a little under that. If it was a ¾ in. board four would be cut out of a 3 in. deal, which is generally the case, as the saw cut and planing have to be allowed for. I would suggest that both inner and outer parts should be square to allow for the lifts to be put on any way, the outer cases, floorboard and roof to be made out of ¾ in. wood finished planed ⅝ in. bare, and to be 21 in. square outside measure when finished, with plinths to cover joints, all joints, etc., painted when erecting.

The brood chamber, shallow frame lifts, section racks, to be about 17¾ ins. square; this allows for two strips about 5-16 in. thick at ends of frames to hold old men whose fathers used to keep bees.

them in place, and brood chamber would hold eleven frames, narrow ends with 3-16 in. strip on either side, or ten frames and two dummies so as to contract brood nest to keep it in centre if combs are worked at right angles, and ten frames and one dummy if frames are worked parallel with entrance, if worked this way dummy could be a little thicker.

The lift for shallow frames would then hold nine frames, seven with wide ends and two with narrow, one at each side. Section racks would hold 24 sections with dividers, board and wedge, queen excluder, and super clearer, say, $17\frac{3}{4}$ ins. square. Such a hive well made and painted with white lead paint and also painted, say, every other year will last a life time.

Outer case being 21 in. square allows a little more room inside space between outer and inner parts, and by being square it allows the several parts to be more interchangeable with each other, brood chamber and shallow frame racks can be parallel or at right angles to each other, and along with section cases or W.B.C. section frame racks, above or below as required, and one can tier up what one pleases to put on.

I may say I had great difficultly myself ten years ago when I first started bee-keeping on modern lines on account of the different sizes in supers, etc.

I have made hives of above dimensions for myself and a few friends, also another type with telescopic lift over brood chamber for winter use, and the inner parts of the two types can be worked with each other. I was hoping to place them as exhibits in the Royal Show, but owing to the war this is impossible at present. However, when peace is declared, if I am spared to return, I hope to do so and also put them on the market.

I have found such hives give me excellent results, and for ease in manipulating, etc., I think are hard to beat. All my bee-keeper friends who have them, or have seen them working, say it is a pleasure to manipulate them. I may say I have had practically a life-long experience in the joinery trade, being a joiner and builder.

Thanking you for all past favours and wishing your Journals every success. Please excuse writing in pencil, etc., as I am writing with a biscuit tin lid for a table.—H. A. Wheatcroft, Sapper R.E., Ashby-de-la-Zouch.

[9536] I read with interest the correspondence on standard hives, and notice that many writers advocate the "W.B.C." with all its loose parts. The merits of the "W.B.C." are well known, but it is a hive which is most unsuitable for Scotland, where almost every bee-keeper "goes to the heather," and where hives have to be packed up sometimes at very short notice.

In my opinion, the key to the whole matter of standardisation is the word "Langstroth," and manufacturers in this country would do well to keep in mind that, as soon as the war is over, the American double-wall ten frame Langstroth hive will make its appearance in this country, and the old idea that the hive is unsuitable for the British Islands will be swept to the wall. A similar fate awaits our shallow frame with drone comb for extracting. Almost every progressive bee-keeper in America is using the "Langstroth" frame for supering, having only one size of frame in the apiary, and I think it was Mr. A. I. Root who wrote that the most valuable asset a bee-keeper could have was a large reserve of standard frames, and as Mr. Kettle in your issue just to hand most admirably puts it, "The bee-man, using standard instead of shallow combs has a great advantage."

Those who have seen a modern American apiary of three, four or five hundred hives are at once struck by the simplicity and interchangeability of the hives, and where one can take a floorboard, a frame, or a lift, from any hive and place it on another without having to ask the question, "Will it fit?" Truly let us have a standard embracing the word "Langstroth."—J. C. Finlay, Kilwinning.

[9537] I have been interested in the correspondence in recent issues of B.B.J. *re* a "standard hive," but I should also like to see a shorter top bar for the British standard frame. A 15 in. top bar would give us a much simpler hive than we have at present, and to the busy bee-keeper who makes his own hives this would be a great advantage, as the numerous strips of wood which go to make up the present hive would be unnecessary. When in France I noticed this type of frame in use, and I understand it is also used in the Colonies and the United States. If the British Bee-Keepers' Association could see its way clear to standardise this type of hive, both single and double-walled, I think we should have made an apreciable advance in British bee-keeping. One great advantage would also be that such a hive could be produced much more cheaply than our hive of to-day. The difficulty of using the frame in existing hives could be easily overcome by inserting a 1 in. strip of wood at each end of the frames. As there are hundreds of empty hives through "Isle of Wight" disease, and lack of proper attention owing to many bee-keepers being in the army, there will undoubtedly be a great demand for frames,

etc., when we all get settled down to this peaceful pursuit again, so after the war should be a golden opportunity for any improvements in hives. So much having been written in the B.B.J. lately on the question of hives and frames I should be interested to hear if there is any chance of a change from the present type of hive. Wishing you and the B.B.J. every success.—T. H. CORNEY.

SWARM CONTROL.

[9538] The recent correspondence under the headings of "Swarm Control" and "Standardisation of Hives" recall the discussion in your columns earlier in the year on "Hive Construction," when several critics tried to disparage the present British standard, and although the present writings are different in tone, I think the subjects are all connected.

With regard to control of swarming, I have noted with much interest Mr. Puck's letter (9513), and would point out to him that he would have more definite results if instead of using shallow frames below the stock body, he were to use another brood chamber of standard (deep) frames.

Following out my own suggestions, as specified in my letter 9410 in the B.B.J., February 8, I thoroughly tested the system this season with excellent results, and I tried both shallow, and standard frames, always added *below* the brood chamber.

Of a total number of stocks thus treated only two swarmed, or rather attempted to swarm, as the queens could not leave the hives, because I had made doubly sure by using an excluder between the brood chamber and entrance, for they were both old queens of extraordinary good strain, therefore I did not wish to lose them, and I was not always able to give them the close attention I should have liked. On each occasion I made artificial swarms, both of which did extremely well.

One stock, built up this year with an imported Italian queen, treated on the above plan, gave me three racks completed sections, and nearly 100 lbs. extracted honey, and has now 30 combs well filled and carries a rack of sections still to be completed. This queen was introduced to bees deprived of queen and brood in one operation, and by Simmins' method of immediate introduction. I had a little bother as she flew twice, but eventually got everything alright. At one time when the hive was already carrying three sets of standard frames, besides sections, I found queen cells capped, but on giving another rack of shallow frames below, they tore down the cells, and carried on.

Of course this method of continually adding from the bottom can only satisfactorily be carried out with W.B.C. hives, which again proves that in this hive we have everything that is necessary for practical and efficient bee-keeping, either for amateur or professional.

Mr. Puck follows out my own reasoning for adding the additional room below, for the brood chamber is always more readily extended downwards than laterally, and also, a point he overlooks, the queen is less inclined to travel over the stored honey at the tops of combs in search of more room for egg depositing than she would be to go down to the extreme edge of the combs, so that you get brood right down to the bottom row of cells. I have had dozens of combs of the more central chambers simply one solid mass of brood with hardly a cell containing honey or pollen.

Now, at the end of the season, I have found several colonies with not an atom of stores in their brood combs, it all having been carried "up stairs," to make room for breeding, so that I have not had the trouble to extract and am carrying on feeding straight away.

I feel confident if all bee-men using W.B.C. hives would only carry out this system that they would not only control swarming much more readily, but also get much heavier crops of honey. There is, of course, the necessity of feeding, and one cannot grumble at the cost of this, if the price of honey is 1s. 3d to 1s. 6d. lb, when candy costs only 11d. and makes 1½ pints of syrup.

STANDARDISATION OF HIVES.

With regard to the sizes of hives varying—I have found this trouble out myself, and personally prefer the W.B.C. hive having an outside measurement of 19 in. by 21 in., as this will take either 10 or 12-frame stock boxes. I find the 11-frame size is most convenient, and intend to gradually work out all other odd sizes.

If I were to write all my experiences this season, I should fill a good size book, so will content myself with mentioning that last year I began the season with two stocks only, and have had this season, at one time 39, all but three from artificial increase, but have now decreased these to 24, which I shall try to winter. All are in excellent condition, and perfectly healthy so far. I have worked out all my old stock, and now have only pure Italians. My total crop for this season is approximately (as I still have some supers to come off) 4 cwt. extracted, and 1½ gross sections, only working 10 hives for surplus. In addition I have sold dozens of nuclei from advertising in the JOURNAL, and could have sold three times as many if I had had them, so let all amateurs take heart and put their energy into the work, for I am hopeful there is a season of prosperity coming for all good bee-keepers.

I, for one, wish them the best of luck,

and try to encourage all whom I can interest in the work, to take up bee-keeping, for I have proved conclusively that it pays, if you use your intelligence with it. —F. M. Claridge.

TAKING HONEY WITHOUT KILLING THE BEES.

[9539] The "Annual Register" (for 1766) gives the following extraordinary narrative:—

On October 14 Mr. Wildman, of Plymouth, who had made himself famous throughout the West of England for his command over bees, was sent for to wait on Lord Spencer at his seat at Wimbledon in Surrey, and he attended accordingly. There, stocks of bees had been provided. The first of his performances was with one hive of bees hanging from his hat, which he carried in his hand, and the hive they came out of in the other hand; this was done to show that he could take honey and wax without destroying the bees. He then returned into the room, and came out again with them hanging on his chin, with a very venerable beard. He now took them out on the grass walk facing the windows, where, a table and table cloth being provided, he set the hive upon the table and made the bees hive therein. Then he made them come out again and swarm in the air, the visitors of his Lordship standing amongst them. He made them go on the table, and took them up by handfuls and tossed them up and down like so many peas. He then made them go into their hive at the word of command. At five o'clock in the afternoon he exhibited again with the swarms of bees, one on his head, one on his breast, and the other on his arm, and waited on Lord Spencer in his room, who had been too much indisposed to see the former experiments; the hives which the bees had been taken from were carried by a servant. After this exhibition he withdrew, but returned once more to the room with the bees all over his head, face, and eyes, and was led blind before his Lordship's window.

A horse being brought out in his body clothes, Mr. Wildman mounted with the bees all over his head and face (except his eyes); they likewise covered his breast and left arm. He held a whip in his left hand, and a groom led the horse backwards and forwards before the window of the sick man for some time. The exhibitor took the reins in his hand and rode round the house. He then dismounted and made the bees march up a table, and, at his word of command, retire to their hive.

Taken from a book entitled "Tracts for the People," published 1848.—G. Millis, Ely.

PRESS CUTTINGS.

THE BUSY BEE—AND THE OTHERS.

The other day I was reading a pamphlet issued by a paternal Department. It dealt with an epidemic at present decimating the bee population of the Isle of Wight, and was full of wise saws for Irish bee-keepers. The latter might regard it as a gripping narrative, but personally I found it deficient in incident and continuity. I thought it would appeal to very few of our readers, and was on the point of dropping it gently into the W.P.B. when something dropped on it. Now, this is a plain statement of fact, but I can understand any incredulity on your part, and would like to state that I can produce at least five witnesses of the incident. The object that dropped from the ceiling to the pamphlet and lay there on its back, kicking and swearing, was—a BEE.

Undiscerning people may see nothing in this incident save a mishap to a bee which was where it had no right to be. I beg to differ. I don't see why a bee should not come into a newspaper office. Think of the flowers of speech and the honeyed phrases he would find here. And if he stung any member of the staff think of the blooming language — but, on second thoughts, don't think of it. However, my own point of view is that this particular emigrant from the apiary had come in by the aperture in the roof designed for admitting refreshing breezes to the fevered brows below, and whilst trying to get his bearings had spotted J.A.P. pondering the question "To bee or not to bee." And marking my obvious indecision, he did his best to emphasise the force of the Department's arguments in the only way that suggested itself.

I may be wrong. It is possible that our ceiling was not the flowery path he expected to tread and that he may have lost his grip. The fact that he landed on his back gives colour to this theory. Also the language he used! A young gentleman from the composing room who interviewed the visitor said he was a worker and that he had no sting. In proof thereof he seized the fat little chap in the loud checked suit of gold and brown and conveying him fearlessly to the nearest open window allowed him to soar once more into the empyrean. (Bob each way on empyrean—I got it out of a book.) And that bee soared away into the sunlit air without even saying "Thank you." I almost regretted that I had not acceded to the suggestion of the bloodthirsty colleague who said—"It's a bee. Kill it."

I sincerely hope that none of my readers will make any observations at this juncture about "A Bee in his bonnet." About two years ago a colleague on another Dublin

evening paper was moved to write a prose poem because a bee buzzed into the room where he sat working and some cheap satirist sent in a communication next day in which he worked the "Bee in the Bonnet" wheeze for all it was worth. I can understand and sympathise with my friend of the rival organ. His bee and my bee brought the same message—summer and the sun on wave and field—a poignant contrast to the plight of the poor pen pusher.—J. A. P.—From the *Evening Telegraph*.

Notices to Correspondents

"Ebor" (Dorset).—*Colour of Excrement from Bees suffering from "Isle of Wight" Disease.*—It varies from the colour of yellow ochre to dark brown, but is usually a dark ochre. According to the Board of Agriculture report this alone is not to be taken as diagnostic of "Isle of Wight" disease. The soiling of the hives, etc., may be due to dysentery.

A. Preston (Ammanford).—*Icing Sugar as Bee Food.*—We do not think it advisable to use this, as some other ingredient is probably added to cause it to set when used for icing. You do not say the strength of your Naphthol Beta solution. The correct dose is 3 grains to each pound of sugar.

M. L. Chamen (Essex).—*Removing Queen Excluder.*—If the bees are bad tempered, drive half-a-dozen puffs of thick smoke in at the entrance, and in about half a minute remove the quilts, blowing smoke across the excluder as you do so, in order to drive the bees down, or lay a carbolic cloth over for a few seconds; ease up one corner of the excluder so that you can get a firm hold of it, and then take it off with one firm, quick, upward jerk, and at once replace the quilt, or if you wish to examine combs, lay the carbolic cloth over the frames again.

W. H. Dobson (Pontefract).—*Making Mead.*—Your best plan is to get a copy of "Mead and How to Make It," post free for 2½d. from this office. The recipe depends on the class of mead you wish to make.

F. S. E. (Ipswich).—*Using "Bacterol."*—(1) The drinking water may be medicated with one per cent.—roughly, two teaspoonfuls to a pint. (2) The combination will not harm the bees. (3) It is better to place the vessel containing the honey inside a saucepan filled with water. This will not only prevent the boiling over trouble, but there will be no danger of burning the honey.

Mrs. E. Seymour (Streatham).—*Wintering Skeps.*—(1) It is better to wrap something round the skep, and put on a waterproof cover. The old straw "hackle" is the best, but several thicknesses of sacking, covered by a piece of waterproof material or an old bowl, pancheon, or tin will answer the purpose. (2) Remove the whole super entirely, close the hole in top of skep, and cover as above. (3) Leave the skep as it is.

The secretary of the Kent B.-K.A. is Mr. G. W. Judge, Barrowdene, Shepherd's-lane, Dartford.

A Beekeeper (Oswestry).—*Diagnosing "Isle of Wight" Disease.*—(1) We are unable to say with any degree of certainty by examining comb. (2) It is not known; the time probably varies. (3) If the queen is still alive next year, and able to fly she will go out with the first swarm.

Y. Y. Z. (Notts).—Both queens had mated. We could not find *Nosema* spores in the bees. We cannot explain the cause of other conditions.

Suspected Disease.

W. Thomas (Harrogate).—We do not find disease in any of the bees sent.

G. G. Baker (Cresswell).—We do not find any disease. They are probably robbers.

Burnett (Sidcup).—We do not find any disease.

Beedon (March).—Both samples of bees were affected with "Isle of Wight" disease.

G. W. F.—The bees were affected with "Isle of Wight" disease. Travelling and confinement would aggravate the symptoms.

M. Arnold (Herts).—The bees probably died of old age; there does not appear to be any disease. The brood of a fertile worker would have the raised capping typical of drone brood, even in worker cells.

Special Prepaid Advertisements.

Two Words One Penny, minimum Sixpence.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

PRIVATE ADVERTISEMENTS.

2½ CWT. finest quality pale clover honey, 160s. cwt. Samples 3d.—Address, EXPERT, Bee Journal Offices, Bedford-street, Strand, London. k 46

FOR SALE, finest quality glazed sections of honey, 18s. per dozen; packing box 6d.; carriage forward on goods train, or carriage extra on passenger train; cash with order. Also a few 1917 Dutch queens, tested, at 5s. 6d., in cage, post free.—W. WOODLEY, Beedon, Newbury. k 47

WANTED, one strong lot of driven bees, with queen; must be healthy. State price and breed.—WOOF, 27, Orion-road, Rodwell, Weymouth. l 1

ONE 3-frame Nuclei, with 1917 fertile queen, 25s.—W. WOODS, Normandy, near Guildford. l 2

WANTED, light English honey, £6 cwt. given. —W. HUTCHINSON, King-street, Leek. l 3

WANTED, healthy driven bees. State price per lb. delivered.—TOWNSEND, Lydbrook, Gloucestershire. l 4

FOR SALE, 3 shallow frame boxes, with drawn comb. Warranted clean and free from any disease. Also ripener. £1 the lot, or separate.—CRUICKSHANK, Station Master, Grantown-on-Spey. l 5

WANTED, geared honey extractor, tins, etc.—Particulars, LARMUTH, Pulham Market. l 6

TWO fine 1917 Dutch queens, guaranteed healthy, 3s. 6d. each; registered free.—J. MOORE, Bleasby, Notts. l 7

FOR SALE, a few surplus stocks of bees, 10 frames, 1917 queens. £2 each.—Apply, NEEDHAM, Hemel Hempstead. l 8

SOUTH AFRICA.—Successful manufacturer of bee hives and appliances desires to dispose of his business.—Particulars can be obtained from STRACHAN, OSWELL & CO., LTD., 6, Broad Street-place, London, E.C. l 9

AFTER May 15, 1918, 100 diseased stocks on movable frames will be accepted for free treatment at my "bee hospital," sender paying carriage both ways. The stocks will be kept 10—14 days, and returned guaranteed immune to "I.O.W." disease or Foulbrood up to August 15 without further treatment. If, however, the remedy is obtainable by May on the open market this little effort will not be necessary as the name of the drug will be published. Many thanks for kind words from all quarters.—S. H. SMITH, 30, Maid's-causeway, Cambridge. l 10

YOUNG fertile queens, price 8s. 6d. each.—PRYOR, Breachwood Green. l 11

1917 hybrid Italo-Carniolan queen to spare, 4s.—GORDON, Expert, Lonscale, Threlkeld, Penrith. l 12

OBITUARY NOTICE.

MR. E. D TILL.

We regret having to announce that Mr. E. D. Till, of Eynsford, Kent, died on Sunday, September 30. We hope to give more particulars next week.

A DORSET YARN.

A few days of sunshine. Bees are about quite early. The golden rod seems to be simply covered with them. In the gardens round Wimborne our little workers are having a good time. The raspberries are not forgotten, and I notice that they do not pass over very ripe pears; just now there are a lot about, which have blown off in the gales, and the bees are in considerably more numbers than wasps. In many places the ivy is opening, but they do not look at it; but if the weather is mild at Christmas they look it over very assiduously. The wealth of flowers is over for the bees; they do not get much from the late autumn flowers. I have had to reduce the openings of our hives, as they were largely chanting the mauraunding song. The tone was very clear and pronounced as they passed over the yard to the No. 2 apiary. They started on one of the small wild lots, and they could easily get in, as the opening goes nearly across the front. "How oft the means to do evil make evil deeds done." Weight of numbers would have conquered, but when it came to one at a time, the wild lot held their own, the others thought "discretion the better part of valour." Now the sun shines each day they are off to the flowers for sweetness. I somewhat think it is unfavourable weather that converts them into pirates.

At a large farm sale, I met Mr. Cox, the steward for Lord Eustace Cecil. His bees have done well this season; he made 20s. per dozen for his sections. He only has four stocks now; at one time he had 28, but he lost them with disease. A stray swarm came and restarted him. The strangest part of it is there is no disease with this lot.

His bees are "far away from the haunts of man," in the midst of pines and heather, but rich farm lands on the South Lychett manor run parallel with Lychett Heath property. All over this estate are the finest plants of heath I have ever seen, plants of Erica Arborea, and Lusitanica from Spain and the shores of the Mediterranean growing 10 ft. high, spreading over large tracts of land and beginning to flower soon after Christmas. It is, as Keats put it, "A thing of beauty and a joy for ever." Wherever you go, on stiff clay lands or sandy heath soils, these wonderful arboreal heaths have taken possession, and are fast covering the whole. Pines from all parts of the world as well as heaths grow here. Many of the seeds were collected by the owner himself, in his travels round the world. Here rhododendrons grow, and seed in wonderful luxuriance, and last, but not least, are the willows by the brook. The Salix family seems to be well represented; the golden one is fine, the bark and growths all shining gold; the silver variety shows up its light-tinted bark and leaves. The woods look a veritable "silvan paradise." His bees should do well with such abundance of early food.

Other Dorset bee-men in Wimborne are quite enthusiastic about the craft just now, as the "Isle of Wight" disease has passed them by. My friend, Mr. Butson, told me this week he had requeened his four stocks with pure Italians. He was one of the most successful exhibitors at our local shows in the years before the disease came and swept so many away. As one of the judges at Wimborne Horticultural Show, I saw many times the beautiful exhibits he had for competition. His sections were well finished and capped with the purest white covering, racks of shallow bars were well filled, and his wax made from pure cappings was always on top of the awards. All his big, fine sons are in the Army, and have been through a great deal of the fighting in France; he may well be proud of them, for they all left good positions in civil life for the lure of the Army in the time of danger. May they come back safe to the land of their birth.

This war has made a lot of difference between rich and poor; they all have some of their loved ones fighting, and they all seem to feel for each other a deal more than they did in the time of peace and plenty. The rich who have only one son to send to the war say "they envy the labourer who has five to fight"; it is as it should be. "A fellow feeling makes us wondrous kind." More kindliness is shown to the cottager when one of his brave sons has paid the supreme sacrifice and has laid down his life for the Fatherland. The bees never hesitate, they at once attack any foe that comes: their lives are given that others may live. My youngest son has had his last leave, he goes to do his bit for his home and country; he (young as he is) says, "it is his duty to do his share in this great struggle." Even though on the farm I

could have kept him for an extended time as others have, he would go; he felt it his duty, and duty is ever present with us. Gladstone says: "Duty is a power which rises with us in the morning and goes to rest with us at night; it is co-extensive with the action of our intelligence. It is a shadow which cleaves to us go where we will, and which only leaves us when we leave the light of life." It is our duty (who are too old to go into this great struggle) to grow the utmost the land will produce. No one should be idle; the Old Book says, "If a man does not work neither shall he eat"; if the idle rich will not work the land, they could keep bees and let them work and produce a valuable food for the nation's workers.

All this is by the way; your readers will say it's all socialistic gas. I find the price of section honey is still going up. Those who held on to their best lines are in for a good rise in prices. I notice one of your writers, last week (Mr. Ward), writes of music and singing; it is nice to know that your correspondents have so many things in common. Music with me has been my only dissipation, or rather, the only thing that I have given up time and money extravagantly for. With him the bees have music, sweet to the ear; his life must be the sweeter, in that he can find "music in the running brooks and good in everything." I hope he will carry on the yarns when I am spun out; you have been good enough to print them with one or two exceptions for nearly a year. In last issue there is a printer's error; the yellow ant should read *Formica flava*. —J. J. KETTLE.

THE BEE GARDEN.

To the truly rural bee-keeper, the question of the nectar and pollen-yielding qualities of garden flora is an unimportant one.

The orchard, first white, then rosy with fruit blossom, meadows starred with dandelions, stream sides overhung with willows, commons dotted with clumps of broom and gorse, all minister with lavish generosity to the vernal needs of the apiary; so that the absence from his garden of any flowers attractive to the hive-dweller, is, for him, a matter of little moment.

Quite otherwise is it with the unfortunate denizen of town, or suburb, whose tiny domain yet contains one, or more peopled hives. The entire course, and final result of his season's operations may be, and often is, determined by the accessibility of a little patch of early bloom capable of affording a welcome, and much-needed stimulus, to spring-breeding.

To such a one are these notes fraternally dedicated, in the hope that they may assist him, or her, to introduce into the garden such subjects as, without in any way detracting from its amenities, shall delight and cheer the little beings whose presence forms in itself one of the greatest charms.

Save in specially favoured spots on the South Coast, it is now too late to sow annuals in the open, but there is, indeed, no time like the present for planting bulbs.

Unfortunately, the crocus and the hyacinth, perhaps the two most useful, are practically unobtainable, but where bulbs of the former have been left in the ground to "make," the new display can be greatly assisted by a liberal dusting with wood ash, soot, or flue dust. This last has been shown by recent experiments to be very efficacious, not only as a manure, but also in warding off pests and diseases from bulbs and tubers. It has the further advantage of cheapness.

Winter aconite should be planted in a sunny position, and in fairly large patches. It is one of the very earliest subjects to bloom, and in a border at the south foot of a wall, I have had it well visited by bees on bright days in January. *Single snowdrops*, *scilla siberica*, *allium moly* (luteum), *fritillarias* (meleagris and imperialis), *muscaria*, are all well worth growing. A ribbon border, consisting of two rows of snowdrops, with a row of scilla sibericas between, forms a perfect arrangement in blue and white, the design being variable at pleasure by scrolls, true-love-knots, etc., while both subjects are suitable for clumps in the rock-garden.—A. F. HARWOOD.

WEATHER REPORT.

WESTBOURNE.

September, 1917.

Rainfall, 1.07 in.	Minimum on grass, 35 on 28th.
Heaviest fall, .28 on 17th.	Frosty nights, 0.
Rain fell on 10 days.	Mean maximum, 66.3.
Below average, 1.17 in.	Mean minimum, 50.1.
Sunshine, 149.4 hours.	Mean temperature, 58.2.
Brightest day, 3rd, 11.1 hours.	Above average, 2.3.
Sunless days, 3.	Maximum Barometer, 30.364, on 29th.
Below average, 28.7 hours.	Minimum barometer, 29.807, on 5th.
Maximum temperature, 72 on 11th.	
Minimum temperature 41 on 28th.	

L. B. BIRKETT.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BACTEROL AND "ISLE OF WIGHT" DISEASE.

[9540] Replying to W. J. Gibbs (9522) I may be childish, but it is not stubbornness. I also give facts of my own and others' experiences. I have no axe to grind, but give an honest experience for the benefit of others. I should say W. J. Gibbs by his letter wishes to discourage any timid writers from giving their experience. I claim to know something of bee-keeping and the "Isle of Wight" disease. I also claim that no one has worked harder than I have to find a cure. W. J. Gibbs invites me to his apiaries. He knows I should not do that, more especially to such a man as he. He also says what he has done with a twelve-frame colony that dwindled down to two frames. I think I can go one better than that; a two-frame stock with "Isle of Wight" disease in 1916 was worked up with Bacterol to four stocks, and it has been on fifteen frames this year, nevertheless the disease is there; they are on ten frames now. I stand by my former letter, and say Bacterol is not a cure. When I sell a bottle I always give the good points, but say it is not a cure. I will not enter in correspondence on the standard frame; but my greatest success comes from a fourteen-frame hive.—J. PEARMAN, Derby.

[9541] The article you reproduced from *Nature* in your recent issue raises a point which has already been answered. The writer in *Nature* asks if "it is too much to hope that some of those who have devoted themselves to the study of epidemic diseases in man should apply their experience in the service of a humble but useful form of husbandry." The writer also refers to analogous diseases in animals, and suggests that the investigations that are being made into amœbic dysentery in man may give some clue to the discovery of a method of killing the parasite in the bee's stomach, or of paralysing its activity.

It will, I am sure, interest the writer of the article to know that dysentery in man and intestinal diseases, which have hitherto been regarded as practically incurable, have been found amenable to Bacterol treatment, which sterilises the intestinal tract, and owing to its selective action kills the pathogenic organisms, whilst stimulating the leucocytes, and increasing their phagocytic activity. Many claims have been made for antiseptics and disinfectants in this respect, but experience has shown them to be much exaggerated or entirely erroneous. As a company, having received the sanction of the Treasury and War Office for its formation and the money of which was provided by medical men and other gentlemen interested in the alleviation of human suffering, we feel it our duty to put the matter plainly and entitled to express an opinion, founded upon results obtained clinically. Certain substances undoubtedly have some power over organisms developed in the large and small intestines, but it has been found that in most cases these substances are absorbed before reaching the intestines, or the disinfectant value is neutralised when they come in contact with the fæces. The efficacy of Bacterol in these directions has been demonstrated by the medical profession, and intestinal diseases which have been considered hopeless are now satisfactorily cleared up. It is therefore no surprise to us that the special form of Bacterol administered to bees should have been found to cure this particular resistant intestinal trouble.

The application to bees of the knowledge referred to by the writer in *Nature* was brought about through Mr. A. E. Glen, a bee-keeper of Chingford, who, having heard of Bacterol, called to consult my colleague, Sig. L. V. Barnabé, the Italian inventor. The successful results are now well-known to thousands of bee-keepers.

One of our bee-keeper patrons, however, reasoned not from human beings to bees, but from bees to human beings, and communicated with us, asking the question why Bacterol, having cured his bees, should not cure his son who had been afflicted with a disease for some years which had resisted all treatment. The result has been that, through his medical advisor, the Bacterol type for human beings has been used, and the son is now in the best of health and a different man entirely.—J. G. SPARKHALL, managing director, Bacterol, Ltd., 19-25, Brookside Road, Highgate, N.19.

STANDARDISATION OF HIVES.

[9542] In reply to 9,521, like Mr. Harman, I am a great believer in uniformity in the apiary, and I quite see Mr. Harman's point, The wording of my advertisement was really the outcome of Mr. Harman's remarks about differences in measurements of hives by different makers, as until I read his article, I was not aware that same existed. I was under the impression, like, no doubt, a good many more, that any make of W.B.C. hive, at least as far as the inner parts are concerned, could be worked along with other hives of the same pattern. As it, however, appears that such is not the case, and being desirous to maintain uniformity in my apiary, my hives all being W.B.C.'s of Lee's make, I stipulated for a hive of Lee's, for preference, in my advertisement.

Granted we had a recognised B.B.K.A. standard, this would, of course, compel makers to supply according to the specification laid down, but when buying hives from a private source, I should certainly want to know beforehand what the component parts of the hive are to determine its value, as in the case of a private individual offering, say, Standard Hive No. 1, the obligation to supply same in conformity with standard specification could not be insisted on.

It would be most interesting to learn our Junior Editor's experience of W.B.C. hives at the W.B.C. Apiary.—O. Puck, Chingford.

[It is quite true that the W.B.C. hives of different makers are not interchangeable, and I am quite in sympathy with the movement for standardisation of hives; in fact, be it motor car, camera, or any appliance that is used in large numbers, standardisation would be a boon, as the multifarious discrepancies in those parts, where it is quite unnecessary, and which are only made so that replacements must be purchased from the one manufacturer, are annoying.—W. H. H.]

[9543] Knowing the lack of standardisation in this country, for what purpose I am unable to fathom, here we are to-day discussing the standardisation of bee hives, which I think every beekeeper will agree is essential, if for economy alone, but what has led me to take this matter up is—where shall it commence? Some begin on the outside body box and think it ought to be made a standard size. Now any one making their own hives, as I do, will find it a difficult matter, as he will have to obtain boards of exact thickness to attain the result desired, as the space between the outside body box and brood chambers is so small when anything above ¾ in. is used.

I may say I have not bought a single hive, having made them myself; neither have I taken dimensions from a hive; my only guide was a brood and shallow frame, your Bee Journal and an interesting study of bees. I went cautiously, and am now the proud possessor of five hives.

It matters very little to me what thickness of boards I am able to obtain, I keep a look out for anything above ½ in. to 1 in., and at least 9 in. deep for outer brood box, and 6 in. for shallow frames. Where I am particular is inner brood box and lifts that they shall be interchangeable: the reason for this is I can lift the whole of the brood chamber from one hive and place in another, so that I may clean and paint the old hive. for which purpose I always keep a spare hive, which also comes in handy to hive a swarm. When I set about to make another, the risers are all the same size, so are interchangeable.

I have made a new type of hive—by which I mean new to myself, as I have not seen one like it as yet. The sides of the outside brood box I carry on to half way over the alighting board, which also forms the porch; the other half of the alighting board I fasten with two brass hinges, so that when the snow is on the ground and a severe winter, I am able to close the bees in entirely. I should say I have a hole 1 in. diameter each side covered with perforated zinc for ventilation; this hive is not only a good wintering hive, but in it I am able to move the bees to the heather without any fear of them escaping on the way and so becoming a nuisance.

In concluding, I should like an explanation on the following behaviour of one of my hives. The bees in it were not doing very well; they had about half filled a rack of shallow frames when they swarmed. I hived the swarm, and, to my surprise, it completely filled ten standard brood frames with comb and quite a good quantity of honey; in fact, it kept me busy giving them frames, and if I was a day or so late they would start combs between the division board and box side. Now I ask: Did the old queen come out with the swarm, or a young one? If the former, as is generally the case, how is it they worked better after swarming? Should I have destroyed this queen this year, as she is three years old? But as they have worked so well I have left her; the question is, what will she do next year? I should like to be enlightened on this point as I am only—A Novice.

[The bees have quite likely superseded the old queen, probably before swarming. A swarm always works better than an established stock. If the queen is three year old, it would have been better to destroy her.—Eds.]

EXPERTS' REMUNERATION.

[9544] I notice in the current issue of THE BRITISH BEE JOURNAL a letter from E. Jacques wherein he considers the salary offered by the Staffordshire Education Committee "should command the services of a really qualified expert." Now, sir, the amount offered is £160 per annum —about the same as a London bus driver earns—and for this munificent salary the lucky individual who is appointed must, among other things, (*a*) give his whole time to the work of the Committee; (*b*) must not engage in any remunerative work on his own account; (*c*) subject to the instructions of the Committee, to establish and conduct a central county apiary, and to direct and supervise the work of branch apiaries if established.

Were it not for these conditions I do not doubt that the Staffs. Education Committee could secure the services of a really good man, but as though he would not be earning his salary sufficiently as bee expert and lecturer he would "probably have to devote part of his time to horticultural work under the direction of the county horticultural instructor!" Ye gods, and all for £160 per annum. Mr. Jacques should apply for the post, and I hope if he does he will get it.—"NOT A CANDIDATE."

WASPS AND "ISLE OF WIGHT" DISEASE.

[9545] In the spring of 1915 queen wasps swarmed in this neighbourhood; the air in my garden was filled with their humming; it was like a plague of wasps in autumn, yet there were few nests. There were also a fair number of queens this spring, but we have had very few wasps this autumn, yet the weather does not seem to have been unfavourable. There has been no cold spell, such as we had in June last year.

Has the "Isle of Wight" disease anything to do with it? There is a plague of caterpillars. Has the scarcity of wasps anything to do with that?—D. D. B.

RE "ISLE OF WIGHT" DISEASE AND BACTEROL.

[9546] I have followed with much interest the correspondence in THE BRITISH BEE JOURNAL as to the merits of Bacterol for the cure of this disease, and seeing Mr. W. J. Gibbs' letter, page 296 (9522), I thought I would add my testimony as to the merits of Bacterol.

Last year my bees were wiped out with "Isle of Wight" disease, but early in June of this year I started again with a cast of natives from an apiary which had never been troubled with this disease. When hived they covered three frames and worked up to six. On July 22 I purchased another swarm from the same source, which, when hived, crowded five frames. As the weather was fine and warm at this time I did not feed them in any way, and they soon had the comb foundation drawn out. On August 1 I saw signs of discontent among them, and on August 3, after returning from business, I was dismayed to find bees from both hives crawling on the ground in hundreds, with their wings extended.

Luckily I had a bottle of Bacterol by me and at once made up a solution of 10 ozs. of water and one teaspoonful of Bacterol, slightly sweetened with sugar, and thoroughly sprayed bees and combs with same from a mist sprayer. As the six combs of the cast were full of honey and brood, I did not want to destroy it, so left it in the hive and thoroughly sprayed every night and morning.

On August 5 I found a lot of greenish-chocolate-coloured excreta on the alighting boards, which encouraged me to continue the treatment, which I did, spraying into cells and absolutely washing combs and bees.

On August 9 I started spraying at evening only, and during this time I had hundreds of crawling bees. After August 9 I found, to my relief, a considerable falling off in the number of crawlers, and after the 17th no crawlers were to be seen at all.

Unfortunately, however, the cast, which was very much stronger than the swarm, started robbing same, and, despite my precautions, absolutely wiped them out. Now the cast is crowding seven combs which are full of brood at time of writing. I have been feeding them these past few days with 1½ pints of syrup each night, medicated with Bacterol as directed, so that they may have an abundance of medicated stores for the winter. I may say that they had no medicated food of any kind whilst spraying, and I can honestly say that it is owing to Bacterol that they are now so strong and vigorous.—NOVICE.

WHY THE STAMPING OUT OF "ISLE OF WIGHT" DISEASE IS TAKING SO LONG.

[9547] During the month of August last I had the pleasure of visiting a small village in Somerset, which had been badly hit by "Isle of Wight" disease.

Not one of its inhabitants possessed a single colony, although in the roof of one of the cottages a swarm had established itself in the thatch, and seemed to be doing well up to the time that I left the village.

A friend who was thinking of commencing bee-keeping wished to see inside an empty hive, so we visited one of the villagers' cottages and asked if we might see his hives, which were affected with the disease.

They were in a deplorable condition, having been left alone with all the combs and the dead bees inside them. There was a slight trace of honey left still, and some robber bees, evidently those from the thatched cottage roof, were taking it away. Most of these country people know nothing of the contagion of "Isle of Wight" disease, and thus leave their hives open with the infected combs in hopes that a stray swarm will enter therein. So long as these people remain in ignorance about the disease, the longer it will be before it is stamped out altogether. Would it not be a good thing if some bee-keeper in each district would volunteer to make an inspection of some of the hives and request the people to disinfect them? I think that the readers of this article will agree with me, that it is absolutely hopeless ever to expect the disease to be stamped out so long as these contaminated hives form a breeding place for the germs of *microsporidiosis*.—C. B. Pardoe.

B.B.K.A. ROLL OF HONOUR.

[9548] It was resolved, some long time ago, that the British Bee-Keepers' Association should perpetuate the names of bee-keepers who had given all for the defence of the motherland, those who had been wounded, and those who had been decorated for bravery.

A notice, asking for the names of those we wish to honour, appeared in the Journal, but I fear with little result. Surely we bee-keepers are not so lacking in gratitude that we do not take this little trouble. If that is the case, it would seem a pity that such a sacrifice should have been made on our behalf. I believe, however, that it is merely forgetfulness, so perhaps if you, sirs, will publish this, it will act as a reminder, and bee-keepers who know of any brother of the craft whose name should be enrolled, will forward it without further delay to the secretary of the B.B.K.A.—G. James Flashman.

AN INTERESTING EXPERIMENT.

[9549] The following little history may be of interest to your readers:—A little more than a fortnight ago a friend sent me a small stock of bees on combs. They were a flourishing colony in July, but threw off a swarm in August, and so only covered about four combs, but all the combs ten in all, were sent to me.

They arrived. My cook said a strange box had arrived, she did not know what it could be, but thought they must be bees, as she saw honey—as she supposed—running down the back of the boy who brought it! I discussed the point with her on the doorstep. I thought it must be fruit! But she was right.

I learnt how not to send bees. There wasn't a chink for air anywhere. The ominous silence made me fear for their lives.

When I opened the box—which was presented upside down, I may remark!—I found what can only be described as a bee-pudding. It was a mass of comb and honey and bees and bars, and sitting up to their middle in it I found two queens. One was nearly dead and died in twenty minutes. The other could just move. I made a long cage and scooped about twenty of the least bedraggled bees and placed them with the queen on top of the frames in the hope that they might clean her up and restore her. They did, and I have just seen a mass of brood of hers.

Then I tried an experiment. I made a perforated zinc division board two days after, and railed off these bees on two frames. I vaselined the zinc before putting it in. I got a lot of driven bees and placed them in the other part of the hive. The entrances we made at opposite ends of the alighting board and gradually brought together, so that the bees went in through an entrance 3in. wide—there being a small wood division just inside. I noticed after four days that the bees were working to a large extent indiscriminately in both sides. When I opened up the hive I found bees of both sorts on the combs. As one had distinct Italian blood in them they were easily seen. I withdrew the perforated zinc, and alternated the combs just to see if, as a final test, everything was right. They evidently could not tell "t'other from which."

I did this for two reasons: First, I did not want to have to use flour—to me an untidy proceeding; second, I wanted to make a first essay towards what I am bent on doing—having two colonies with two queens in one hive.—C. S. Morris.

NOTES FROM NORFOLK.

[9550] This has been the most successful season I have had. I wintered 29 stocks, but "Isle of Wight" disease broke out in early spring and claimed 9, but thanks to Bacterol I saved 20, which have given me 165 stones of the finest honey I ever wish to see, and no honeydew this autumn.

My neighbouring bee-keeping friends have lost, some all, and others, part of

their stocks with the disease, which is still raging.

I have had only five swarms, and have just packed down 27 stocks for winter. There has been, and is still, a ready sale for honey.

Wishing the Editors and the B.B.J. every success.—RICHARD LING.

STANDARD HIVES AND SWARM CONTROL.

[9551] Standardisation of hives is certainly much to be desired, but I would beg to point out that it will demand greater accuracy of workmanship than is at present attained by some dealers in bee appliances. Being myself a keen amateur joiner, I have some idea what a well-made hive ought to be like. It is not desirable to mention names, but while some firms turn out excellent hives, others leave much to be desired in the matter of material, accuracy, and finish; often, moreover, there is little or no difference in the price demanded, though I personally would always be willing to pay a little more for a well-made article.

To take an example, I lately purchased several hives from a bee-keeping friend. They had never been used, and I believe my friend had bought them before the war, so present conditions cannot be made an excuse for their defects. They were twelve-frame hives, and bore the name-plate of a well-known maker. Though all are supposed to be alike, the lifts are not interchangeable, and if the floor-boards are changed some of the entrance slides cannot be used. Standardisation will be of little use unless makers can do more accurate work than this. I was the more surprised as the maker in question has usually given me satisfaction, when I have occasionally given him an order, though he is not the one I usually deal with.

It would be interesting to hear your readers' opinions as to how far this year's excessive swarming has been due to the importation of Dutch bees, or whether it is mainly attributable to peculiar weather conditions? For myself, having tried Dutch bees, I have no further use for them, and consider it urgent that bee-keepers should be encouraged to keep native bees, and that Bee-keepers' Associations should do all they can to preserve good strains of native blacks, and thus, before it is too late, prevent our own excellent race from becoming hopelessly crossed with Dutch and other foreign varieties prone to excessive swarming.—BRITISH BEE-KEEPER.

* Several letters and articles are in type, but are unavoidably held over.

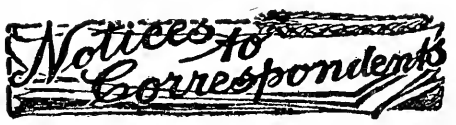
PRESS CUTTING.

BEE-KEEPING AND BREWING.

SIR,—Each week the *Spectator* offers valuable general information, and your last issue was no exception. Your correspondent raises an important question as to the price charged for sugar needed to feed bees at certain times of the year, and I endorse the complaint made by Miss Minns as to the exorbitant price demanded for bee candy. The Board of Agriculture might adopt a more helpful attitude and see that supplies are available for bee-keepers at least on as favourable terms as sugar is permitted to reach brewers for the production of beer, which is not admitted by all authorities to be a food. No such difference of opinion applies to honey. The production of honey in larger quantities must be to the general advantage, but owing to "Isle of Wight" disease bee-keeping instead of being profitable is now highly speculative. The initial outlay on the first swarm, hive, and other necessaries involves about four pounds; subsequent hives can be started for less outlay. For a person of little capital this is a lot of money to risk if the hive in the following spring is annihilated by disease. Miss Minns objects to medicating candy with Bacterol, and leaves the matter there, without telling your readers of any alternative treatment. As a bee-keeper I have been fortunate to find Bacterol effective. This spring one of my hives developed "Isle of Wight" disease, or at least betrayed all the signs, the bees dying in hundreds. All honey was at once removed and candy medicated with Bacterol substituted, and the entrance sprayed with the same preparation. Almost at once the general condition of the remaining bees materially improved, and in the course of a week the hive became normal and promises a fair average yield of honey. My gardener, who lives about four miles away, by similar treatment was equally successful in arresting the disease with his stocks. If there are more effective methods of attacking or, better still, preventing the disease, I for one hope Miss Minns will let us have the benefit of her practical experience. Bee-keepers have suffered financial loss and disappointment owing to this scourge, while dread of the disease has deterred, and is likely to deter, many from attempting to produce the valuable food honey. This alone is to be regretted, but, further, inadequately fertilised fruit-trees may involve serious consequential loss should the bee disappear from the countryside.—I am, Sir, &c., GUY ELLISTON, Northwood.

—From the *Spectator*.

The writer of the above is secretary of the British Medical Association, and manager of the *British Medical Journal*. — EDS.



H. M. MacCallum (Glasgow).—*Earwigs in hive.*—(1) We cannot say what the larvæ are without seeing them. If they are earwigs they will resemble the adult insect, except that they are paler in colour. We have seen them almost white. They may be the larvæ of the small wax moth. The small black particles are excrement. (2) They do not harm the bees, but will feed on the pollen in the combs, and also pierce the cappings over honey. They make a very unsightly mess in the hives. (3) You may do so, but choose a mild day for the purpose. (4) Sprinkle naphthaline freely between the brood box and outer case of hive, under the lugs of the frames, and between the quilts. Place something near their haunts, into which they can creep and hide, such as the hollow stems of plants or a flower pot partly filled with moss, hay, or straw, and inverted over a stake.

E. W. D. Madoc (Hants).—*Fumigating combs to kill small wax moth larvæ.*—Place the combs in a box that may be made air-tight. Put some lighted sulphur in the box, or about ½ oz. of bisulphide of carbon, and close it up for an hour. If the latter substance is used, be sure and do not allow a naked light to come near it.

J. White (Belvedere).—*Size of extracting combs.*—A box of shallow combs does not give so much space over the brood box, consequently both are warmer, and the bees take more readily to the super. You may use only standard combs for all purposes if you desire to do so.

"Born on a Friday" (Oxon.).—*Queries on feeding.*—(1) It is late now for syrup feeding. Take away one empty comb, give the bees a couple of cakes of candy over those remaining, and wrap up warmly, renew the candy as it is consumed. (2) Use that method if the bees will take the candy. The iron will not hurt them. The objection to its use is its coldness. (3) There is a sporting chance, but you will be lucky if you succeed. (4) Only by examining the combs; look also on the hive sides and floor board. If there is worker brood you may take it the queen is all right, and it will be better to let the bees alone.

A. Pugh (Glam.).—*Starting bee-keeping.*—The best time is to start now and read the subject up during the winter. If you can find an up-to-date bee-keeper ask him to explain the different parts of the hive and show you how to handle bees if he will. The latter you must do at once, as the bees are now being packed up for winter. Get "The British Bee-keeper's Guide Book," 1s. 6d., from any bookseller, or post free from this office for 1s. 8½d. Get your bees early in the spring.

Anxious (Renfrew). — *Dealing with diseased colonies.*—Under the circumstances it will be better to destroy the bees and give the healthy lot you get next spring a clean start. If you do not wish to use any honey they may have, dissolve ½ oz. of cyanide of potash in half a pint of warm water, close the entrance of the hives, turn back the quilt, and pour about half of the solution among the combs of each hive. The cyanide is a deadly poison, so be careful. Half an ounce of chloroform to each hive would also answer, or you may suffocate the bees with burning sulphur. The bees might contract the disease in less than a fortnight.

Neon (Finchley).—(1) Extract the syrup and boil for 15 to 20 minutes. Re-medicate when cool enough, and if too thick add a little more water. (2) Yes. (3 and 4) Soak the combs for 12 hours in a strong solution of disinfectant, but it is safer to melt them down.

G. B. S. (Poole).—You did quite right in destroying the bees, but it was unwise to give other bees the piece of comb. It may have been dysentery, but it is quite possible it was "Isle of Wight" disease.

E. Stokes (London).—You had better get your hives now. These things take some time to arrange, and we do not think standardisation will be accomplished by next season.

J. E. C. (Preston).—(1) See answer to "Neon." (2) Put in a comb containing a little brood, and they should settle down all right. (3) It may be due to disease, or perhaps it is the cold. Wrap a couple of hot bricks in flannel or other material, and place one on either side of the feeder in the evening, and wrap down warmly. (4) At this time of year they will often congregate outside the entrance as a precaution against robbers.

J. C. Chase.—The bees and combs are worth 40s. to 45s., and take about 25 per cent. off the value of the hive when new.

Honey Sample.

E. C. M. (Birmingham).—It may be "Californian" honey, but it certainly is not the best. Its value in normal times would be about 4d. or 6d. per lb., now 10d. or 1s.

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WANTED, a number of Taylor's dovetailed hives, which take two lots of Standard frames (not number 12 hive), up to 20 in number, wanted at reasonable price.—F. NICHOLLS, 498, Gladstone-street, Peterborough. l 15

WANTED, W.B.C. brood and shallow boxes, also queen excluder, zinc.—J. YOUNGER, 6, Maid's Causeway, Cambridge. l 16

THREE 28lb. tins pure English honey; sample free; price £6, free on rail.—ROPER, Thorpe-on-the-Hill, near Lincoln. l 17

WANTED, geared honey extractor, must be in good condition, and to take standard frames.—Apply, ARNOLD, 242, Wimborne-road, Bournemouth. l 18

WANTED, all grades of English honey.—Samples and price per cwt. to LEE, "Little Bowden," Burgess Hill, Sussex. l 19

WANTED, good photos of bee life and manipulations; must be suitable for reproduction.—BIGG-WITHER, Birdwood, Wells, Somerset. l 20

THE experiments leading up to the sending out of the free samples were made possible only through the courtesy of Dr. C. H. Browning, Director of the Bland-Sutton Institute of Pathology, the Middlesex Hospital, W.1, the discoverer of "Proflavine" and "Acriflavine," who supplied these drugs when they were otherwise unobtainable, and to whom is due all credit and thanks. Both drugs proved equally efficacious. They are now obtainable from Boots' Pure Drug Co., Ltd., Nottingham, at 1s. 6d. and 2s. per 5 grammes respectively. As the sample weighed about ¾ grain, it is obvious that an expenditure of a few shillings should clear up "I.O.W." disease in Great Britain if the drugs prove as effective in other districts as they have in this locality.—S. H. SMITH, 30, Maid's Causeway, Cambridge. l 21

WANTED, healthy skeps or driven bees. State price.—RECTOR, Gislingham, Suffolk. L 13

WHAT offer, 1½ cwt. light honey, 1½ cwt. medium dark?—Address, Tithe House, Wilburton, Ely, Cambs. l 22

OBITUARY.

MR. E. D. TILL.

It is with deep regret that we have to announce the death of that veteran bee-keeper and our friend Mr. E. D. Till, of the Priory, Eynsford, which took place on Sunday, September 30.

THE LATE MR. E. D. TILL.

Mr. Till was born within the sound of Bow Bells on October 30, 1835, so had he lived another month would have attained the age of 84 years. He was educated at the City of London School, and in 1851 began business as a junior clerk in the office of a large fruit importer in Botolph Lane, and later entered the city office of a firm of Welsh ironmasters, starting on his own account in 1866 as an iron merchant at 26, Lombard Street. In 1882 Mr. Till married the daughter of the late Captain Thomas New, but was left a widower the following year. The grief caused by this event induced Mr. Till to give up business, and after the death of his father, Mr. Joseph Till, he retired to Eynsford.

In his retirement he found scope for his activities in many channels. Parish matters occupied his attention, and for long he strove to bring about reforms in parochial and rural district administration. He was a member of the Experimental Committee of Swanley Horticultural College. For many years he was Hon. Sec. for Eynsford of the Technical Education Committee of the Kent County Council, and organised the classes for carpentry, basket-making, and other subjects. He also took up the question of poultry and egg production, and was the means of improving the class of fowls in the district.

Realising the great importance of bee-keeping for the rural population, he not only commenced keeping bees himself but busied himself with the advancement of the science. In 1891 he joined the B.B.K.A., and was elected a member of its Council in 1893, a position he retained until 1900 when, owing to ill-health, he

retired, much to the regret of his fellow members, who valued his sound practical advice. He was Vice-Chairman of the Council from 1905 to 1909, took a very active part in promoting the interests of the Association, and realising how the bee-keeping industry was handicapped by the prevalence of disease, which prevented its expansion, he was a strong advocate of legislation, and deprecated the motives of the few clamant individuals who have hitherto obstructed the almost unanimous desire of bee-keepers for controlling disease. He gave valuable assistance in obtaining statistics, more especially with regard to Kent bee-keeping, and believed that with greater encouragement the country could produce all the honey required without importing it. He was one of the deputation which was received by the President of the Board of Agriculture on May 7, 1895, and assisted in collecting the evidence which was then placed before the President, of the position of bee-keeping in Great Britain and Ireland.

The Kent Bee-Keepers' Association, of whose Council he was also a member from 1893 until its dissolution, also received his hearty support. Mr. Till was greatly distressed at the collapse of this Association, and some ten years ago made an endeavour to bring the bee-keepers of the county together again. He lived to see his desire at last gratified by the amalgamation of the Crayford Association and the Mid-Kent Association, in forming the new Kent Bee-Keepers' Association. He was a frequent contributor to the *British Bee Journal*, and his contributions were always marked by good, sound commonsense.

Mr. Till looked infinitely younger than his years, for he was tall, upright, alert and energetic, and took a keen interest in all that tended to the improvement of mankind. He had for many years acted in *loco parentis* to the old-world village of Eynsford, and spared neither time nor money to add to its charms, or defend it against the risks that had proved fatal to other places equally picturesque.

Mr. Till, in his zeal for improvement, purchased a great many old houses in Eynsford, including an ancient block of dwellings in the centre of the village, which were condemned as unfit for human habitation. These were restored to their original guise, so that the old picturesqueness of the village should not be disfigured by the intrusion of unsightly architecture. The interiors were modernised in accordance with present requirements of comfort and convenience, and thus enormously improving the housing conditions of the village. It is hardly conceivable, but it is a fact that he was actually prosecuted by the Rural Council, and mulcted in costs for providing wooden cottages, with good gardens, at a rental of 4s. a week. Mr. Justice Grantham suffered in a similar manner, and had a fellow feeling with Mr. Till, inviting him to dine during the Maidstone Assizes, to talk over their common grievance, the outcome of which was the formation of the Building By-Laws Reform Association, and the repeal of many ridiculous and oppressive regulations.

He also restored the historic mansion of the Sybils, named Little Mote, a family residence of the times of Henry VII., and at his own expense buttressed the ruins of the Norman Castle, and built a replica of the Eynsford Tudor House from materials taken from an ancient barn in the old castle grounds. Not only did he do his best to preserve the ancient pictureesqueness of the village, but provided it with a capacious Drill Hall, which serves as a picture gallery and museum for articles of local interest, as well as club rooms with every convenience. The hall was opened by Sir William Hart Dyke on November 18, 1905, and in the club no alcoholic drinks are allowed, as Mr. Till considered a village club with a drinking bar far worse than a public house.

For some years Mr. Till had taken an interest in further beautifying the village by planting trees, and in the year of the Diamond Jubilee he started the Arbor Day Movement in Eynsford. This desirable custom is now observed in many other parts of the kingdom. On this occasion Sir George Birdwood and Mr. C. W. Radcliffe Cook, M.P. for Hereford, asisted in the Arbor Day proceedings, and helped to plant the school bank in the centre of the village in acrostic form, so as to express the text, "My son, be wise!" Another arboreal sentence was planted in 1910 by Sir Henniker Heaton and Lady Heaton, to express Browning's words, "Who keeps one end in view, makes all things serve!" The card of invitation issued on this occasion was quite a gem, and characteristic of the artistic tastes of the host.

Mr. Till was an accomplished artist, so it is not surprising that his house was embellished by striking examples of his own paintings. He was fond of his bees and poultry, and pardonably proud of his garden. Kind hearted to a degree, he was always ready to do a kindness, and the village of Eynsford has, by his death, lost a benefactor. As a personal friend we feel his loss keenly, and we are sure that bee-keepers will join with us in sympathy with his relatives in the loss they have sustained. Thus one old bee-keeper after another is passing away, and it is for the younger generation to continue their work.

THE LATE MR. E. D. TILL.

AN APPRECIATION FROM THE KENT B.K.A.

Mr. Till has probably done more than any other individual to forward the pursuit of bee-keeping in Kent. He was one of the moving spirits of the late Kent and Sussex B.K.A., has always been anxious to resuscitate the County Association, and made several efforts in that direction. The majority of Kent bee-keepers will remember he organised a conference at Eynsford on April 6, 1907, at which Mr. W. F. Reid presided. Although much enthusiasm prevailed, events proved that the necessary cohesion was lacking, consequently the movement did not reach fruition. For some years past Mr. Till has taken a great interest in the Crayford and District Association, and joined the directorate of the reorganised County Association in October last year, and although not able to take an active part in the work of the Association, his wise counsel and progressive ideas proved a very great asset. Needless to say, he was extremely gratified at the realisation of his hopes and wishes when the Kent Bee-keepers' Association was again an accomplished fact. At a meeting at Dartford, in making an interesting speech, he referred to a Latin inscription he had seen on a wall in the Tower of London to the effect that "Everything comes to him that knows how to wait," and said he was in the happy position of being able to realise, in the reviving of the Kent Bee-keepers' Association, the fruit of long years of waiting. It had been one of the great desires of his life to see this accomplished, and he was one of the proudest and happiest of men to know that his desires were realised, and the Kent Association was once more alive and likely to resume its former pride of place. He congratulated the Association in possessing so capable and energetic a secretary as Mr. Judge and an enthusiastic and hard-working Committee to back him up. Almost his last words to the secretary were that "no effort must be spared in the provision of means for the better education of bee-keepers."

Mr. Till was one of the few who realised the possibilities which the bee-keeping industry afforded, and he never lost an opportunity of extending his sympathy and support to any movement designed for its advancement, and in him bee-keepers, and Kent bee-keepers in particular, have lost a pioneer, one who believed in the value of the pursuit and who was not afraid to back his belief financially when necessary. It is extremely sad that a sting should have been a contributing factor in bringing about his death after so many years of successful apiary work. Some weeks ago he was stung in the left ear by a bee, or a wasp, and great pain ensued with glandular swelling. An abscess was formed, and the symptoms were so critical that a specialist was consulted and an operation performed, but he became gradually worse and passed away after some days of great agony.—*Communicated.*

The following beautiful tribute was published in the *West Kent Advertiser*:—

A FRIEND GOES OUT.

By a Neighbour.

Mr. E. D. Till has passed into his immortality. He died on the last day of September at the old house in the beautiful garden in Eynsford, the village of Kent that he loved. No village ever had a better friend than this good old man. He planted it with trees, and helped to keep its little gardens beautiful. He founded Arbor Day in England, and all over the country trees are growing which owe their lives to him. He lived for 83 years, one of those noble, useful lives that are the nation's pride and strength. He loved all good things, and at home he had three great friends—his sister, his dog, and his gull. All three of them had died since the war began, and Mr. Till was alone. But he still had friends in his garden: how glad he was to be with his bees! He loved them. And now a bee has killed him, for he was stung and lay in pain for weeks until he died. Little know the bees what a friend they have killed.

He lay dying with the full moon shining, and his quiet village disturbed by enemies in the sky. The long valley of the Darent lay hidden in the mist as by a white snake that stretched from the Thames down to Westerham, where Wolfe was born, and night after night this place was as a battlefield. And on the last day of September, as the shrapnel burst and the graceful star shells floated overhead, and the Gothas droned heavily past, all that was seen of the village from the hill above it was the shining light of the moon on the gables of Mr. Till's house. We prayed that the tumult and the flashings might not disturb his sleep, and they did not, for just before they came that Sunday night, this good old man, this friend of all the world, had passed to where, beyond these voices, there is peace.

A DORSET YARN.

Of all the perennial plants that give nectar to the bees, the clover is the one that gives the greatest bulk; yet I wonder how many of our community have ever noticed the wonderful transformation that takes place every night. The leaves early in the evening go through certain evolutions that alter their entire character. When I first noticed it, many years ago, it was an object lesson to me of the wonders of nature.

It was in the year 1875 that I sat down by the roadside tired, and very hungry, and did a spell of thinking. If you notice the characteristics of the nationalities that make up Great Britain, the English and Scotch move slowly, they think before they act; but with those of Irish nationality, they mostly act in a hurry, and do the thinking after. I had quarrelled with and struck one who was senior to me in a gentleman's garden, and did not wait to be discharged, but cleared off at once, and after ten hours walking was glad of a rest. It was an evening in early May, the clover was growing very vigorously, the leaves were all spread out with their upper surface to the heavens; but after an hour's thinking, I noticed that the leaves had all closed up, the two outside ones had closed up with their upper surface face to face, and the leading, or terminal, leaflet had turned over the other two and formed a little span roof with the under surface up to the heavens. I had never noticed it before, and it made me more eager to see other units of the Vegetable Kingdom that had the same characteristics, and to-day, as I go round the hives at night and see the clover leaves all gone to sleep, memory travels back to the time when first I saw these evolutions.

There is a very full account of this, and other plants that have similar movements, in Cassell's Science books. Many of them, when grown under glass, I have been able to watch very closely. A great many of the Leguminosæ family have the same characteristics. Bees work most of them. The Coronillas with racemes of yellow flowers bees visit in early spring; under glass they come in at the ventilators to get at them. These also alter their leaves at night. When a boy, going round the glasshouses at night with a lantern to see the heat was kept up from the large boilers, I have seen these plants looking so miserable and changed, I thought they wanted water, so gave them some, but each night it was the same; then I watched the movements of the leaves and saw them go through their evolutions. This plant has several pairs of leaflets on a mid-rib, which are called pinnate leaves. At night they slowly lift themselves from a horizontal position to an upright one, the upper surface face to face in pairs and the odd one at the end up against the last pair. In the morning they drop back to the flat position, with the upper surface to the heavens.

Very many flowers that the bees frequent have the same, or similar, movements at night. Some, like the blue Speedwell of the hedgerows, are full open for the bees on fine mornings, but they close soon after noon, and the bees have to open them to get at their sweetness, and if it is going to rain they will not open at all. Bees look these over in early summer; afterwards, when there are abundance of flowers, they pass over them. The Goat's-beard and many others close their flowers early, and some of them bend over at the top. Many butterflies seem to know this; it is the most likely place to find them at night—the calyx being on top makes an umbrella-like covering for them.

When collecting insects many years since, by the aid of a lantern at night, one learned a great deal of the habits of flowers and insects. The thistle family also is worked by bees; these have many flowers in one calyx, some are tubular with an outer ring of ray flowerets. On fine days the ray flowerets spread out like a large marguerite; but when rain is coming they all lift up the points of the rays to the top, all the points touching each other. The rain then runs down the outside of the rays, and the centre flowers, full of delicate seed organs, are kept dry. I have opened the Carline thistle at night and have seen honey bees and bumble bees kept dry by these ray flowers. This plant has a stiff neck, and cannot arch over to keep the florets dry, so the rays rise up like the cupola of an Eastern mosque, and insects seem to know, and take advantage of shelter and food till morning comes with the glorious sun to open the flowers again. Milton must have noticed these peculiar movements. "As in a shady nook I stood—at shut of evening flowers"—I cannot remember it all, but it was the poetical reckoning of time by Adam in "Paradise Lost." Milton could not have been always blind, or he must have had a companion who saw these openings and closing of flowers.

Just now, the strawberry-tree—correctly the "Arbutos"—is in flower, and in peaty soils this grows ten and twelve feet high and has thousands of flowers at the end of this year's growth. Bees are having a fine time with them; our bees have to fly half a mile to them, but they are out and off in the direction of the trees on a neighbouring estate, where all that is beautiful of the Vegetable Kingdom is planted, to carry on the wealth of blossoms as long as possible throughout the year.

The Squire who planted them has long gone to his last rest, but the good he did still lives in the trees he had planted, showing how true were the words of an old writer, who wrote, "Happy is the man that plants a tree, so that others may sit beneath its shade, and bless the hand that planted it." I read this in early manhood, and as head gardener on many estates I have planted all sorts and conditions of trees, from all the temperate parts of the world. Since farming for myself, I have planted more than in all

the other years lumped together. We plant by the acre (all fruit trees), all food for bees as well as man.

The time has now come for planting. All bee-men who have land and wealth should plant, if not for their own benefit, for the general wealth of the country; there has been too much individualism in our loved land in the past; there has been too much of "God is in heaven, all's right with the world," too much drifting, too much selfish ease. All is not right with the world unless we all work for the good of the community; even expert bee-men will have to be up and doing, if our craft is to once more be a flourishing industry; and they must fling out to the world the knowledge they have gained of the craft.

In the days of early manhood we Socialists who believed in our principles always worked in propaganda "without money and without price." I am old enough to know that money is not everything in this world. Young Gladstone, who fell early in the war, in the last letter to his mother, sums it up concisely: "It is not the length of life that counts, but what we do in life."—J. J. KETTLE.

THE BEE GARDEN.

ROSA AND THE BEE.

Had I to choose between the flowers beloved of bees, and those dowered only with beauty and fragrance, my position were, indeed, an agonising one did all roses fall into the second category. Methinks *l'âne de Buridan* would make his choice sooner than I, but fortunately this dilemma need only confront one in hypothesis. My feet have turned from hive to border, my hands from smoker to sécateur, too often and too long for me not to have learned that a garden planted with roses alone can furnish a wealth of both nectar and pollen to the eagerly crowding bees.

The majority of the varieties more usually grown in the three classes, teas, hybrid teas and hybrid perpetuals must, however, be excluded from our survey, since quite double roses are useless to bees until fully expanded, a stage which they should not, especially now,* be allowed to reach.

There remain, however, many other classes, of surpassing beauty and infinite charm, lending themselves to every purpose, save exhibition as individual blooms, to which roses may be put. Hedging, bedding, weeping standards, arches, pillars, pergola, screens, shrubberies, specimen bushes, pot culture, table decoration, all these are uses to which single and semi-double roses are perfectly adaptable.

Hedges.—The soul of the suburban jerry-builder seems, almost always, to find self expression in the form of a hedge of privet. This ubiquitous shrub, unless kept closely clipped, breaks into a shower of small, white, malodorous blossoms that unfortunately have an evil attraction for hive bees, yielding a nectar that taints any other with which it may be mixed. The uprooting and burning of this disgusting plant needs to be followed by the liberal manuring of the site with its ashes, mixed with well-decayed stable manure; after which a hedge may be planted, composed, if a fairly high one be desired, of the hybrid sweet-briars, raised by Lord Penzance. Their names evoke the gallery of heroines created by the genius of the Wizard of the North, Meg Merrilees, Amy Robsart, Julia Mannering, Jeanie Deans and the rest. With these may be associated Ayrshires, (such as Bennett's Seedling and Dundee Rambler).

If a hedge of more sociable height be voted the thing, the common Sweet-briar, Una, Stanwell Perpetual and roses of botanical species—Altaica, Lucida—and Ruga are indicated and should—still in medical parlance—be "exhibited." Townd-wellers need have no fear of failure with these. Mrs. Sydney Montagu tells us, *pace* Rose Annual for 1910, that with her, between Regent's Park and Hampstead, "the Penzance sweet-briars are only too rampant," while the writer knows a garden in Finchley where the bull that besieged Pongo would hardly be able to penetrate the well-laid fence formed exclusively of briar roses.—A. F. HARWOOD.

* In these ordered days of conflict, when so many erstwhile sturdy defenders of the common cause lie stricken and nerve-shattered in the hospitals that have so sadly multiplied throughout our land, no rosarian worthy the name would allow a petal to be shed, but, instead, would take, or send, his blooms to the nearest palace of pain, accompanying this offering, if he be a bee-keeper, by that of a little honey also, thus bringing pleasure by two avennes at once into the marred lives of men whose debtor he is for ever more.

BEE NOTES FROM FRANCE.

The season just closed (although it opened with very bright prospects) has been a disappointing one to many bee-keepers, owing to the wet weather we had during July and August.

I hived a swarm for a person early in July, and on inquiring six weeks later how they were getting on, was told they were dead. I was shown the combs on which they had died; it was easy to see they had died of starvation, as the bees were head first in the cells, and there was no honey at all in any of the combs. There was a nice lot of dead brood. It clearly shows that since early in July the bees have not been able to get enough to keep themselves going. If feeding is not done well this autumn, I am afraid there will be a lot of stocks die out during the coming winter.

The honey that has been gathered this season is of good quality, and the bees round here have to rely mainly on the white clover for their chief flow, as there are few trees about, the land being mostly devoted to the cultivation of corn, potatoes, and here and there a plot of carrots and mangels. There are very few hedges, the land being ploughed and the different crops sown up to one another, with a few acres of pasture land occasionally, fenced off from the rest with a post and barbed wire fence.

Red poppies, thistles, and charlock have been very plentiful among the corn this year, and when the weather was satisfactory the bees have been working on them early and late, and they have also worked well on the hollyhocks, sweet sultan, sunflowers, cornflowers, golden rod, mignonette and Michaelmas daisies growing in the hospital grounds.—E. JEFFERY, 87158, R.A.M.C., B.E.F., France

SUGAR FOR BEES.

It will interest our readers to know that the whole of the 50 tons of sugar allotted for bee food early in the year has been used. It is pleasing to know that the Government have again recognised the requirements of bee-keepers generally by allocating some further sugar for the purpose of manufacturing bee candy. It would be more pleasing still if they would allow it to be sold to bee-keepers without being first made into candy, but all efforts to get them to do this have so far failed, and bee-keepers may be, and no doubt the majority are, thankful to get sugar for the bees at all.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BACTEROL: IS IT A CURE?

[9552] Not quite so fast, Mr. Gibbs, (9522). Because you have saved one diseased stock don't jump to the conclusion that we can say "Eureka!" and "Isle of Wight" disease is henceforth eradicated. I have had what is supposed to be this scourge for two or three years, and after burning, scrubbing, cleaning, painting, drugging with nearly everything reasonable and unreasonable, spraying until I could almost run full kick at the sprayer, the brute still sticks to me. Now, Mr. Gibbs, why hasn't Bacterol cured my diseased bees? Have sprayed three or four times per week, fed it to them winter and summer—stocks have died from it winter and spring, but I can manage to check it in summer, and that is just where I agree with Mr. Pearman when he says he should not like to be without it. My opinion is that Bacterol can check the disease, but not cure it.

Now, as to Mr. Gibbs' cure, am glad he had such success. I have cured two diseased lots by joining together, spraying with Bacterol, and re-queening. They are now going well, but why were they not cured with all the previous spraying?

I also had stocks in the spring time that would persist in dying, although repeatedly sprayed, and then one weak stock that I thought not worth the trouble forged ahead and made a good stock, got into supers—gave well—and then got struck, and has since gone under. Bacterol couldn't save them—very disappointing after thinking here was one immune stock.

In conclusion, we cannot rest until the scourge is completely eradicated: am hopeful this will be done owing to the various freaks it takes. Am now trying other remedies—advertised and unadvertised—but unless stocks are kept full of vim, with young queens, it is hopeless to try. Once let their energy get below par, and they soon diminish.

Am now trying a few stocks of driven bees. Purchasers should insist on a piece of candy being placed in each box. It is a valuable tip, and saves hundreds of bees, also keeps the lot in good condition. Vendors, try it!—H. HILL, Ockbrook, Derby.

TWO QUEENS IN ONE HIVE.

[9553] I am sending you particulars of an unusual occurrence which has recently come under my notice. One of my colonies (a first swarm of this season) having a queen with an injured wing, the result of "balling" while uniting to a cast, I decided to re-queen, and on September 2 opened the hive for the purpose of killing the queen, when I found that she had been superseded. I found the new queen a very fine specimen, and evidently fertile by her appearance and numbers of eggs.

I let things remain as they were, and introduced my queen to another weak swarm.

On opening the same hive again, on September 16, to my great surprise I found the original old queen, with her dislocated wing, well in evidence, and on the next comb the new mother.

The Guide Book tells us that this is a rare occurrence, but I should be glad to know if the length of time is unusual for the two queens to occupy one hive. I cannot say how long previously she had been hatched, not having opened the hive for perhaps a month, neither can I be certain that the new queen was laying, but *feel* quite sure about it, her ovaries were fully distended, judging by her outward appearance.

The injured queen was hatched 1915, and the race is hybrid, British-Italian.

I have examined the bees in question again to-day (September 22) and found both queens, sealed and unsealed worker brood, and eggs; I feel confident that the new queen is laying.—A. H. Holman.

[It is unusual for two queens to be present in one hive, though it does occur at times, but only for a short time. So far as we know your two queens have created a record.—Eds.]

BEES WITHOUT WINTER STOCKS.

[9554] "If bees are without sufficient honey to carry them through the winter, either too much has been taken from them or they are in a district unsuitable for bee-keeping.

"In the latter case they should be destroyed, as it is unprofitable to keep bees that cannot feed themselves. In the former, some of the honey taken should be returned. In an average district bees will provide for their winter and give a good surplus. M. McLaren.

"The Elms, Aldwick, Bognor."

Re the above cutting from the *Daily Mail*, can Mr. McLaren give bee-keepers some of his valuable experience in bee-keeping. I am sure there are many bee-keepers like myself who would be glad to know more: how to know just the correct place to keep bees, regardless of weather, and what to feed them with if there is no honey to put back in the hive. It seems to me that to destroy the bees is making bee-keeping more unprofitable. I know a very little about bees, so should like to have as a guide the experience of Mr. McLaren, how he keeps his bees, and in what kind of hives, and the surplus per year he gets from his bees per hive. I do not like killing my friends, the bees, it seems a Hun-prescribed way to destroy them. Could not the bees be united together? I have read a description of it being done. I am sure a full description of Mr. McLaren's way of keeping bees would be interesting and instructive to novices in bee-keeping.—J. Draper.

STANDARDISATION OF HIVES.

[9555] It is clear from the great interest which this correspondence has aroused, that many bee-keepers share my view, that a few of the best types of hives should be standardised and numbered forthwith.

However quickly we get to work, the consideration of the various types, and the printing and distribution of plans of those selected, must of necessity take some time, so that, if the scheme is to be in full working order for next season, there must be no delay.

I, therefore, beg all those bee-keepers who agree with me in principle to sit down now and to write two posteards, one to the Secretary of their County Committee and one to the Secretary of the British Bee-Keepers' Association, "I am in favour of standardisation of hives," followed by the writer's name and address, will be quite enough.

If bee-keepers will support me by letting the authorities know, in this way, what an insistent demand there is for standardisation, I, for my part, will promise not to allow the matter quietly to drop.

If all pull together, next season we may at last be able to say that we are working upon a sound, economical, and logical principle in the matter of hive construction.—M. C. Harman.

FEEDING AND PACKING FOR WINTER.

[9556] The present state of my hives I may conclude is pretty general in most districts, i.e., lack of stored honey in the brood boxes.

I was interested to read in Mr. R. Oswald Fordham's letter (9527—September 20) about coddling our bees too much, and never feeding them. If this is correct, it is very comforting to bee-masters this autumn, with the price that pink candy is now being sold at. This theory will save us a lot of time and money—if sound.

I must state, before going further, that this is my first season as a bee-keeper—and it is the diversity of opinion that is so puzzling to the beginner, who has not yet had time to find out for himself, as in direct opposition to this theory. I find in Mr. Cheshire's book, vol. 2, in the chapter on "Wintering," he goes fully into the question of packing for the winter, and feeding for winter store, stating that sugar, i.e., pure cane, is quite a sound and safe substitute. It would be very desirable to have copied extracts from the work just mentioned, but for the copyright.

It is, however, possible to state that Mr. Cheshire recommends a very

thorough system of packing, and, be it noted, *ventilation* at the same time, and it appears from his arguments that this will make stores last further towards the spring, which is very desirable, as I take it there will be many a hive go into winter short of its full complement of 30 lbs. I am also a hearty supporter of "standardisation" in hives, to be run by the B.B.K.A.—"BELROYD."

IS BLUE AN ATTRACTIVE COLOUR TO BEES?

[9557] Surely our friend Mr. Kettle is a little bit off the line when he says in your number, October 4, "Blue is said to be an attractive colour to bees, but I have not found it so." What about Borage, Scilla, Chionadoxa, Cornflower, Veronica, just to mention a few that occur to me? I don't think bee-keepers should be without the above blue flowers. Perhaps some other of your readers have written to you *re* this subject, if not, you might like to put a small note in your Journal.—W. A. K., Surrey.

[We have an article on "Bees and the Colour of Flowers" in type, which we hope to publish shortly. A table of visits of bees to flowers of various colours is given which supports the view of Mr. Kettle.—EDS.]

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

T. MILLAR (Lanark).—*Cloth for honey press.*—Scrim or cheesecloth, or muslin are best. Any material that is open and strong will serve. You can get them at any draper's. The length of time they will last depends to a great extent on how you use the press. Do not put too much pressure on at first. You did very well to damage only two for that amount of honey.

R. C. HALL (Tottenham).—*Swarm under floor.*—We do not see that you could have done better, and your plan for transferring to a frame hive should answer. Make the hole in the floor as large as possible, and make the space between board you have placed next the comb and the wall bee-proof, so that the bees cannot get in and build comb in it. The only difficulty we see is in moving the bees to the other side of the house. By the time they are transferred to the frame hive they will be flying freely, and will have become accustomed to the place. They should be moved a couple of miles away for about ten days. If you cannot do that keep them confined to the hive for a couple of days, giving plenty of ventilation, and when liberated on the new stand place a handful of loose hay in front of the entrance for a few days, so that the bees have to force a way through it.

A. W. (Edinburgh).—*Bees retaining drones.*—It is very unusual for bees to retain drones so late as this under normal conditions. You might try and destroy as many as possible if they are very numerous, but the better plan will be to leave the matter to the bees. If the queen is fertile they are not likely to allow the drones to live long. We do not think the clipping would make any difference.

E. W. DAVIES (Cards.).—We have no bee books in Welsh, and do not know where you could get any in that language.

T. TAYLOR (Beverley).—Not more than an inch. If crowded they might build comb even in that space.

J. MERRICK (Bristol).—(1) Better stick to the remedy you have been using. (2) 40s. to 45s. Under the conditions the higher figure. (3) It is quite likely to occur in some cases.

Honey Samples.

F. N. (Peterboro).—Mainly from clover. Some from beans and a little from mixed sources.

H. C. M. (Rusholme).—From clover and mixed sources, including a little ragwort. Hence the flavour.

Suspected Disease.

F. G. (Tunbridge Wells).—From your description of symptoms we are afraid the trouble is "Isle of Wight" disease.

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Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per word as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ¼*in., or* 5s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FOR SALE, 2cwt. first quality honey; price on application. — APIARY, Burton Latimer, Northants. 1 23

5 GRAMMES "PROFLAVINE" will make over 300 ½ grain packages. At 1s. 4d. your chemist can afford to sell you 3 for 1d. If not ours can. Do not destroy any good combs diseased bees have died on; spray with "Proflavine" and store for use next year. Send stamped addressed envelope for instructions.—S. H. SMITH, 30, Maid's Causeway, Cambridge. 1 24

1917 fertile hybrid golden Italo-Anglian queen, from colony which has resisted disease for 14 years, for highest offer received before 20th.—RADICE, I.C.S., Darrington, Camberley, Surrey. 1 25

WANTED, Roots' A.B.C., cheap.—73, St. John's Park, Blackheath, S.E.3. 1 26

W. B.C. hive for sale, in splendid condition, fitted with brood box and frames; also shallow frame box and frames. What offers?—PAGE, Chalk, Gravesend. 1 27

WANTED, good quality honey at 120s. per cwt. for cash.—E. F. LEETE, Therfield, Herts. 1 23

MARRIAGE.

On Thursday, October 11, 1917, at the Gunnersbury Congregational Church, Chiswick, W., A. G. Pugh, of Queen's Road, Beeston, to Catherine Edith Lundie.

Mr. Pugh is well known as an enthusiastic bee-keeper, not only in Notts., but all over the country, and we feel sure our readers will join with us in congratulating him on his recent marriage, and we hope he and Mrs. Pugh may spend many happy years together.

SEASONABLE HINTS.

Packing the bees down for winter should be completed without delay. Syrup feeding must be discontinued, and where there is a shortage, or suspected shortage, of food, both the bees and the bee-keeper will have to trust to candy to carry the colony through the winter. A cake may be placed over the bees when packing up, and when this is consumed it should be replaced by another. It may be placed under the quilt, but if that is done there is some difficulty in making all snug round the edges, and if a bee-way is left anywhere, numbers of bees will get out, be unable to find their way back, and perish. A better plan is to turn back the flap over the feed-hole, and put the candy over it, in the place that was occupied by the feeder. A good idea is to invert a shallow box over the candy. One of the best things is a glazed section case with one of the glasses removed, or a section that has had the comb cut out may be used, if the bee-ways are cut away or filled up, and a small square of glass placed on the top. It is then an easy matter to see when the candy is used, and to put in another cake with very little disturbance to the bees. The less they are disturbed from now till the spring, the better. The candy will provide a winter passage for the bees, but where it is not used a couple of pieces of wood, about half-an-inch thick and seven or eight inches long, should be laid across the top bars of the frames, under the quilt and two or three inches apart, to provide a winter passage.

Entrances may be kept fairly close till the end of the month, and then, as the danger from robbing will be very slight, they may be opened to five or six inches. The entrance must not be more than three-eighths of an inch high, and if higher than this must be reduced by tacking a strip of wood or tin along the top edge to prevent mice entering the hive. Make certain that the hive roofs are waterproof. "The best winter packing for bees is—bees," and if there are a large number of bees in a hive they will stand a lot of cold; but damp must be avoided, as it will certainly injure the colony, and probably prove fatal.

Cleaning, repairing where necessary, and putting away appliances not needed until another season may occupy the long winter evenings. Bee literature may be studied, and plans made for next season now.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on October 18, 1917.

Mr. W. F. Reid presided, and there were also present Messrs. G. Bryden, G. S. Faunch, T. Bevan, W. H. Simms, G. J. Flashman, J. Smallwood, J. Herrod-Hempsall, J. B. Lamb, G. W. Judge, Association representatives, F. W. Frusher (Lincs.), E. Ff. Ball (Bucks), and the Secretary, W. Herrod-Hempsall.

The Chairman paid tribute to the services rendered to the craft and the Association for many years by the late E. D. Till, of Eynsford. A vote of condolence to the relatives was passed by the members present standing in silence.

Letters of regret at inability to attend were read from Miss M. D. Sillar, Messrs. T. W. Cowan, C. L. M. Eales, W. E. Hamlin, and F. W. Harper.

The minutes of Council meeting held on September 20, 1917, were read and confirmed.

The following new members were elected:—Messrs. W. Hawkes, R. Dymond, L. H. Larmuth, J. C. Finlay, M. C. Harman, and T. Johnson.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank for September were £7 6s. 3d. The bank balance on October 1 was £95 4s. 10d. Payments amounting to 14s. 6d. were recommended.

Reports on Preliminary Examinations held at Holt and Dartford Heath were presented, and it was resolved to grant certificates to the following:—Mrs. C. de Putron, Mrs. P. Aitkens, Misses G. E. Whittaker and A. Buck, Messrs. J.

Bambridge, J. Bramley, R. R. Babbage, J. W. Price, G. E. Lyddon, R. J. Wright, J. Darby, E. F. Masson, E. C. Carter, E. Coomber, and H. C. Chapelow.

The Secretary informed the Council that one of its members, Mr. A. G. Pugh, was married a few days previously. A vote of congratulation was passed and the secretary was instructed to write accordingly.

Next meeting of Council, November 15, at 23, Bedford Street, Strand, London, W.C.2.

A CONTRAST.

An Irish reader sends in the following official printed report, culled from an Irish paper, with a request to insert it under the next report of the British Bee-keepers' Association, with the remark that in its brevity it reminds him of the doggerel, "Little boy, box of paints, sucked the brush, joined the saints":—

"IRISH BEE-KEEPERS' ASSOCIATION.

"Committee meeting, United Arts Club, Dublin, Sept. 19th, the Rev. J. G. Digges, chairman, presiding. Minutes read, adopted and signed. Accounts passed for payment. New Associations affiliated—Aurry and Maygowna. Scheme for testing 'remedies' for I.W. submitted, considered, and deferred to next meeting. M. H. Read, Hon. Sec., Clonoughlie, Straffen, Co. Kildare."

A DORSET YARN.

Bees are still very active on the wing. When the sun is seen from under the clouds they are out in great numbers. I cannot see them only on raspberries and perennial asters, very few on violets; they still fly away in the direction of the arbutus; there is plenty of yellow gorse on the waste land. To see them so strong on the wing in mid-October is a good sign of rude health, and one should expect them to winter well. 1916 stocks, on bar frames, are as active as some of the 1917 swarms, and look as strong in numbers.

Returning again to the yellow gorse, which is now so floriferous, I was looking up an old natural history of this family. Though it is so common in parts of rural England, in many parts of Europe it is not to be seen. Gerard says Poland, Brunswick and Dantzic have not any of it, yet around here are many acres of it, some 6 and 8 feet high where the soil is good. Cowper, in "The Task," says:

"The prickly gorse that, shapeless and deformed,
And dangerous to the touch, has yet its bloom,
That decks itself with ornaments of gold."

In the shelter of the valleys it is of straight growth, not "shapeless and deformed," as Cowper says; it is only when it is exposed to every wind that blows that it is so. One writer says: "It is browse for the cattle, shade for the shepherd, hedges for the fields, and food for the bees."

Without a doubt it is very beautiful, and every visitor to the Violet Farm speaks in raptures of its wild beauty—the yellow gorse and purple heather. Keats writes, in "Endymion," of "swelling downs, where prickly gorse buds lavish gold." No wonder the bees are active when the sun shines and millions of flowers open every day.

From now on to the end of March is the time to plant trees and bushes of all kinds, while the growth is at rest (not the roots, they never rest unless locked up with frost). Limes are nearly bare of leaves, and it is best to get them in early, as they start new roots directly after moving; it is the same with all trees, they root quickly in November. In the large estates of England's merchant princes lime trees are largely planted, and in the rich soils of Dorset they are of great height and width, covering large spaces of ground. At Bryanstone Park, Blandford, at Handford, and beyond Blandford, they are more prodigious in size and quantity; also in the beautiful park of Sir Randolph Baker, M.P. for North Dorset.

This neighbourhood must be the Mecca for the bee-man, but unfortunately it all belongs to them, and the villages also; they can choose who they like to live near them, and if you wanted a house in this sylvan Elysium you would have to work on the estate, unless you had your bees round on a trolley or caravan and carried them from place to place, where the wealth of flowers was greatest, which the natives of Egypt do on the Nile. Urban dwellers should see that more limes are planted in the open spaces and pleasure parks of the people. My neighbours tell me the bees make nearly all their surplus honey when the limes are in bloom (they have no heather like we have here).

The common lime (*Tilia Europia*) is the one most generally planted, but there are others more erect growing, whose flowers are larger; some have all the young wood when the leaves are off all shining red and gold. *T. Americana* (the American bass wood) blooms quite three weeks later than *Europia*, which carries the season on longer for the honey gatherers. I have read that

"The bee sits on the bloom,
Extracting liquid sweet deliciously."

If chestnuts (Spanish) are also planted it would carry on food for bees a long time. I notice just now chestnuts are being cut by hundreds for piles in fencing for Government work with barbed wire entanglements at the different war fronts. There will be a need to plant again very largely if the stocks of timber are to be kept up.

Going back to the limes the old writer, Gerard, observes, in 1597, that "the female linden tree groweth in Northampton, also neere Colchester, in Essekes, and in many places along the highway to London; the male linden tree in the Lord Treasurer's garden in the Strand, and in sundry other places neere London," which shows that the limes have been planted in this country a good long time. It is not readily broken by rough winds, and it is a great favourite in all the temperate parts of the world.

It is from the inner bark of this tree that the mats used for covering glass lights are made; even books were written on it by the ancients. The National Library at Vienna has the works of Cicero written on a book made of this same inner bark.

I do not anticipate such a wealth of autumn colouring as other years have given us, as the rough gales reduced the foliage materially. Leaves are all falling earlier than usual, but what are left are showing some colour. That old nature-lover, Thomson, writes: "These as they change, Allmighty Father, these are but the varied God, its rolling year is full of thee." When the changes come each year memory goes back to early manhood. In the gardens and pleasure grounds of the wealthy, all trees were planted for effect. Throughout the year in all the seasons there was always the bright harmony of colour. In spring and early summer, when the scarlet oaks unrolled their lovely leaves against the dark background of pines and silver firs, the light-tinted larch and huge masses of chestnuts; in the foreground the dainty maples of China and Japan, all clothed in their many-hued leaves of silver, gold and bronze. Look another way at the colour of beeches and gigantic elms. Wonderful men these old landscape gardeners were, to plant in such pleasing harmony; they could see it as it would be in 50 to 100 years; then the glorious tints of autumn come, showing us seasons come and go. We that have lived a long time, our thoughts go back to the beautiful sylvan pictures of other days.

One of your correspondents wrote of early bulbs to plant for bees in urban gardens. Pictures of other days come to me of acres of these early bulbous flowers—aconites and snowdrops—planted in the grass in such profusion they seed every year, and soon grow into flowering bulbs, till you could not step but you would crush them as you walked. Large sums were spent year after year in crocus bulbs; it was well spent, and, for effect, well planted, big splashes of yellow and white, with even larger spaces of the beautiful flaked flowers. The Government is compelling the bulb growers of the Fenlands to lift their bulbs and plant a certain amount of corn; why not the lands of pleasure for one single family? They order me to grow two-thirds more corn than last year; why not the man who never grows any? Let us all be treated equally. If the snowdrops and crocuses were ploughed up for corn, they would not die; they would bloom in their season, the bees would be able to get their fill of what was good in them, and the nation would be the richer for the extra grain. It is remarkable how hardy bulbs of the crocus are. I have rearranged flower gardens, made new paths, and crocuses absolutely refused to be killed; where they were covered with gravel they each year pushed through and blossomed in all their gaudy colours. One had to walk with bees all around when the sun shone in early spring. They seem to have only one enemy, and that is sparrows, who tear the flowers into ribbons for pure wantonness; but this year I can see the sparrows are in far less numbers than other years. Since the rich estate owners are not allowed to give good grain to game, there are not so many keepers about with the gun; they used to kill off all the owls, but now owls are spreading in numbers on every side; when awake at night one can hear them calling from tree to tree, and they are frequently seen in daylight, where before they were so rare. Of course, all this refers to rural England, where ivy-clad trees shelter the sparrows by night; near our towns and cities the sparrows have not their natural enemy to keep them in check.

The horticultural trade papers offer snowdrops, but no crocus bulbs just now; we had always depended on the Dutch growers. That need not be so, as these bulbs increase remarkably fast in our own country. Lift some large clumps in early summer before the foliage has quite disappeared, and dibble them singly in grass or banks, or in reserve gardens. Bees will be glad of all this early bloom, and the flowers are larger by being singled out, and will soon make large clumps again: it is always best to plant what gives food for the bees as well as pleasure to the planter.—J. J. Kettle.

THE BEE GARDEN.

ROSA AND THE BEE—(*Continued.*)

Bedding Roses.—The smallness of the average suburban garden precludes the formation of many rosebeds, and the tendency of the man-who-has-to-catch-trains is to grow as great a variety as the exiguous space allows, in order that he may sport a continuous change of buttonholes and offer the occasional homage of a bouquet to her-of-the-flattened-fingertips at the offices.

The fine effect obtainable, however, by the massing of one variety in a bed renders this form of cultivation a highly commendable substitute for the ordinary summer display of geraniums, calceolarias, marguerites, etc., especially now that perpetual-flowering sorts are available.

'Tis to the Sister Isle we owe a delightful series of single roses to which the raisers have prefixed the adjective Irish, presumably to denote that the qualities named are, in a superlative degree, hers and their own. Irish Beauty, Irish Pride, Irish Elegance, Irish Harmony, Irish Modesty, Irish Brightness, the Irish Engineer and the Irish Fireflame—beds of any or all of these are a joy to the eye. There are, too, such varieties as Simplicity, Muriel Jamison, Mrs. W. T. Massey and Mrs. Kingsmill, of similar habit and effectiveness.

Princess Mary, Queen Alexander and Muriel Dickson are charming, but as yet high-priced, additions to this section.

Perhaps the most gorgeous bed I ever saw was formed exclusively of a hybrid Rugosa, Rose à Parfum de l'Haij. This, by the way, is quite the best rose I know of for making potpourri.

Pegging Down Roses.—Beds are sometimes formed of strong growing varieties by pegging down the ends of the long shoots, thus forming radii of a simple circle if one plant only be employed, or of intersecting ones if a larger number be used. Instead of the double varieties usually recommended, try such perpetual-blooming singles as Moonlight and Danaë or semi-doubles such as Chrissie Mackellar and Harrisonii. Some of the "Irish" series are also quite suitable for this treatment.—A. F. HARWOOD.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

By J. PRICE.

It will be remembered that in my last notes, which appeared in the B.B.J. in June, that I had then decided to test "Bacterol" on my stocks that had so far kept clear of disease, despite the fact of their having been hived on infected combs ten months previously.

At that time I hinted that I should probably get the disease—in fact, I was asking for it when feeding them this spring on honey on which my bees had died last winter. I admit that it was a very severe test, and, to be candid, I did not expect it would prevent the disease altogether, but I was anxious to see if it really had any retarding effect.

All went well until the beginning of July, when a swarm hived in a skep (ten days previously) started to throw out its first crawlers. I immediately commenced treatment by spraying "Bacterol" 1 in 40, slightly sweetened with honey. I sprayed and drenched them every night for three weeks without success, and finally finished them off.

In the meantime two other swarms hived on to new combs showed signs of disease. In this case I had a better opportunity of carrying out the treatment, as I was able to remove the combs, and so saturate every bee. I also fed with medicated syrup. Treatment was continued for a fortnight, again without success, and as robbing was causing trouble I destroyed these also.

Since then the parent stocks from which these swarms came developed the disease, and again I could not see any improvement, and they are now dead.

This is rather a disappointing experiment so far, but I give these notes for the benefit of all who read them, and I don't dispute with those who have been more successful than I have; I am only too pleased to know that some find good results from its use, and I still think "Bacterol" is the best disinfectant we can use in connection with bees, because it has no unpleasant properties.

I would remind my readers that my test was not an ordinary case, used as a preventive, but a most severe test for any article, and the first thing which I use which will clearly show me that it will improve the condition of the bees, even though they may get so weakened as to be worthless, will be sufficient for me to know that it will act as a preventive where disease has not already been in existence.

I may say that since then I have tried several things suggested to me by bee-keepers of good standing, but all without success.

The "Smith" remedy I received very late, and it has not had a fair chance. In my case it has not stopped crawlers, but the bees that can fly certainly work with vigour, and if this condition will only continue it will be worth trying another season.

It will be of interest to my readers to know that I have still two stocks free

from disease, although the parent stock fed itself up last autumn with stores robbed from a neighbour's two hives that had died of disease, and I am hoping to winter these safely. With two other stocks I have the trouble, but I am watching very carefully, and there is the bare possibility that they will survive till spring.

The result of this season's work from the three stocks, spring count, is 200lb. of beautiful honey; increase to nine lots by natural swarms (five now dead); and last, but not least, the experience gained is most valuable to myself, and I hope has interested my readers.

BEES AND THE COLOUR OF FLOWERS.

By E. E. Pescott, F.R.H.S.,
Principal, School of Horticulture, Burnley, Australia.

A statement has been made that bees preferred the blue colour, and visited blue flowers more frequently than any other. It will probably be remembered that I challenged this with the remark "that if that was the case, why did the bees visit the fruit-trees so abundantly in spring time, to the neglect of flowers of all other colours?"

I do not think the statement that bees visit blue flowers more frequently than any other will hold good. Sir John Lubbock's experiment with bees and coloured glass being a success, it does not necessarily follow that the bees prefer blue flowers, and it is to be regretted that Lubbock's experiment is used as a peg to hang the blue flower statement upon.

The question of the colour of flowers has very considerably interested scientists, and statements have been made that flowers have been coloured in order to attract bees, that their bright hues serve as signboards to nectar-loving insects (Sprengel), and that the arrangements of colours, the radiating lines, bands and markings, are signboards or fingerposts to these insects (Lubbock). I can hardly accept these, especially the latter, seeing that some nectar-secreting flowers are brightly coloured on the back of the petals, and that some flowers also have the markings on the back of the petals.

During the past season, I made a number of continuous observations in connection with the visits of bees to blue flowers, and the following table will show the results of these observations. The numbered groups show a number of plants of different colours that were growing in close proximity to each other:—

Group.	Flower.	Colour.	Bee Visits, 1912-13.
1	Commelina coelestis	rich sky blue	never
	Veronica saxifolia	violet	frequently
2	Carnations	all colours, no blues	frequently
	Daffodils	yellow	frequently
	Commelina coelestis	blue	never
	Veronica	various violet	frequently
3	Agapanthus umbellatus	blue	very few
	Melianthus major	green and brick red	hundreds
	Geraniums	scarlet	frequently a good number
	Stokesia cyanea	heliotrope	
4	Agathaea coelestis	blue	occasional
	Geraniums	scarlet	frequently
	Iceland Poppy	white, yellow, orange	very many
5	Borago Officinalis	rich blue	occasional a few
	Dahlias	all colours no blues	
	Aralia Sieboldti	greenish	swarms
	Myosotis	pale blue	very few
6	Salvia patens	pure blue	only one
	Salvia azurea	blue	none
	Anemone, various	reds, whites, blues, and shades of same	plenty
7	Iris Kaempferi	purple, bluish, white	few
	Iris stylosa	heliotrope	nil
	Iris pseudo-acoris	yellow	very many
8	Vinca major	blue	very very few
9	Delphiniums	blue	rare
	Annual Larkspurs	blue, pink, red, white	a good number, equally on all colours
	Sunflowers	yellows	swarms
10	Hyacinths	blues, pinks, reds, yellows and whites	all colours equally

It will thus be seen that, while the bees visited blue flowers occasionally, yet they visited others equally, and generally more frequently, than the blues.

As a result of these observations, I have come to the following conclusions, bearing in mind that no experiment or observation is definite, unless carried out over a series of years, and that these conclusions are mainly for this year only:—

1. Blue flowers do not secrete nectar any more abundantly than flowers of other colours.

2. Trees of shrubs with flowers of white or whitish shades and tints are perhaps of greater value and importance to bee-keepers than trees carrying flowers of any other colour. Instances:—Eucalyptus, White Clover, Blackberry, Tree Lucerne,

Fruit trees, Melaleuca and Leptospermum.

3. Bees do not visit flowers of blue or blue shades any more than they visit other colours.

4. If plants carry greenish flowers and they also carry abundant pollen or secrete nectar (Hedera (Ivy), Melianthus, Aralia Sieboldti), the bees visit them in great profusion.

5. If plants carry yellow flowers with similar attributes, the bees will congregate in great numbers (Acacia (pollen only), Capeweed, and Dandelion).

6. If plants have blue or bluish flowers with pollen or nectar attributes, the bees will visit them freely (Scotch Thistle, Lucerne).

7. No matter how bright-hued the flowers are, nor how large and numerous they are, if they neither carry pollen nor secrete nectar the visits of bees are exceedingly rare (Camellia).

8. If nectar or pollen flowers are plentiful, and the flowers are variously coloured, and at the same time grouped together, the bees visit colours evenly, and do not discriminate (to the extent of numbers) on one colour more than another (Sweet Pea, Iceland Poppy, Zinnia, Aster (blues here), and Phlox).

9. While the colour of flowers may be of some indicatory use to the bees, they totally ignore the indicators, if both pollen and nectar be absent; consequently, colour in flowers is only a secondary guide, the fragrance comes first, and for this year I will say that bees do not visit blue flowers any more than they do other colours; and that colours of flowers are not of primary importance to bees; but, where the nectar or the pollen are, there are the bees.—From *Home and Garden Beautiful* (Australia).

STANDARDISATION OF BEE HIVES.

[9558] I have read much of the correspondence which has been appearing in the British Bee Journal recently, and find it very interesting. There is not the slightest doubt about the necessity for a standard hive, but which hive? What is the matter with the W.B.C. hive if made "standard"? By that I mean that all W.B.C. hives should be same size and interchangeable. Personally, I have three W.B.C. pattern hives. One I made according to Mr. Cowan's "B.B. Guide Book," another was made by Mr. E. H. Taylor, and the other was made by someone locally according to his own ideas, and these are only interchangeable as regards the internal fittings.

It seems to me that the real remedy lies with the makers of hives, such as Messrs. Taylor, Lee, Simmins, Abbott, etc. If those firms will only put their heads together and make a "common" W.B.C. at an agreed price, one firm's "common" hives being interchangeable with any of the others, the problem will be solved. I have a rooted objection to abolishing all but a particular pattern, or two or three patterns, as it will tend to do away with initiative amongst non-manufacturing bee-keepers as well as manufacturing bee-keepers. There is no doubt in my mind that a great deal of trouble with our "cottage" bee-keepers is due to ignorance, with the result that their trouble becomes the trouble of others in their district through robbing, etc., and the remedy for that is better education for the working classes.

Some of your readers may say that the "standard" hive should be decided on by those who have to use them, as regards details of construction, but the combined experience of the principal makers, who are all experts in the art of bee-keeping, should be sufficient for all British bee-keepers.

This is on the principle of "first catch your hare," namely, "to make a standard hive, 'first catch the makers,'" and when you think it over, Sirs, I think you will agree that that is the correct method of getting what is required in this instance.—J. J. Liverton.

BACTEROL AND "ISLE OF WIGHT" DISEASE.

[9559] My experience of Bacterol forces me to agree with Mr. Pearman that this disinfectant is not to be relied on to cure "Isle of Wight" disease.

I lost stocks last year that were well treated with this so-called remedy, and this year I have a stock that has contracted the disease in spite of being continually sprayed with Bacterol as a preventive. If Bacterol will not prevent infection, it certainly cannot be expected to cure. I am confident that in many cases where correspondents declared their stocks quite cured, the disease is only latent, of if cured—and I am ready to agree sometimes they may be—it is through the vigour of the stock overcoming the disease. Under favourable circumstances I do not believe that any of the drugs or disinfectants so often advocated as cures can be fairly described so, unless it is the drug acriflavine which Mr. Smith is trying, and which I hope

bee-keepers will experiment with next season.

My experience has led me to the conviction that our chief hope of minimising this disease at present lies in keeping our stocks as vigorous as possible, our hives well ventilated and damp-proof, and in breeding from those stocks which, after showing certain but slight signs of the disease, apparently recover; also in destroying at the earliest possible moment all stocks that are badly affected. This last is as important, perhaps more so, than either of the others. In the meantime we must await patiently the arrival of the real "cure."—J. W. DUKE, Ongar.

EXPERTS' REMUNERATION.

[9560] *Re* letter No. 9554, I think your correspondent "Not a Candidate," whose letter appears in your issue of October 11 on the subject of "Experts' Remuneration," is looking at the matter in a wrong way.

The condition as to "whole time to be devoted to the work" is usually inserted to protect the prospective employers from the type of applicant who is willing to draw the *full* salary offered, in return for devoting his *spare* time to the work for which he has been engaged.

This condition, though often stipulated, is more often liberally interpreted than strictly enforced.

"Not a Candidate," presumably, from the tone of his letter, values his services at a higher rate than that offered by the Staffs. Education Committee. In that case, I contend, he should apply for the post, and if the Committee's estimate of his fitness for the post agrees with his own, he would in due course be called up as a selected candidate for interview.

This would be his opportunity to discuss with his interlocutors the adequacy —or otherwise—of the remuneration offered.

Members of Education Committees are often shrewd business men, and if the candidate is a highly qualified man, possessed of the ability to state his case briefly, clearly, and convincingly, he would probably succeed in convincing his hearers; get the appointment, and a higher initial salary than was stipulated in the advertisement announcing the creation of the post.

The above policy has been an eminently successful one in many cases I have known during a career of upwards of a quarter of a century spent as a—"DOMINIE."

[9561] I was glad to see the reply of "Not a Candidate" to Mr. Jacques' letter on this subject.

Does the latter realise, 1st, that *two* and not *one* qualification are necessary for this post, viz., a thoroughly sound education as well as expert knowledge on the management of bees.

2nd. That the purchasing power of money to-day is only 50 per cent. of pre-war days.—WM. THORNE.

EXTRACT FROM A LETTER FROM THE FRONT.

[9562] I enclose an extract from a letter received from one of our keen members, Mr. E. C. Read, of Gravesend, who joined the Artists' Rifles last year, and is now serving in France. I thought this extract might interest your readers inasmuch as it contains information concerning bee-keeping on the Western front.

In a subsequent letter, Mr. Read says, "I omitted to mention that the peasant farmers when they take their produce to the weekly market at the nearest town frequently offer gingerbread and other cakes sweetened and sometimes glazed with honey. They have evidently mastered the art of making cakes with honey as the articles in question are very light and of the same consistency right through, and do not show the honey at the bottom. The flavour of the honey, which is of the old-fashioned type, is just perceptible."—GEO. W. JUDGE.

"Am in the best of health and had interesting and varied experience out here. Have been in the trenches and mud—such mud—but beyond receiving small doses of various kinds of gas and a few bruises from spent shell fragments have fortunately escaped injury.

"Have seen a few bees out here, mainly blacks, no modern hives, all healthy, in some apiaries the skeps were protected by wood cases, all different colours, just as Maeterlinck describes. But, earlier in the year, saw immense quantities of clover and lime in full bloom, apparently rich in nectar and not a bee visible. At one place there was a strong colony of 'blacks' between the brick and woodwork of the butts on a French rifle range which we were using.

"During the spring our rations included some tinned granulated Canadian honey of rather poor quality. The contents showed discolouration in many places where they came in contact with the tins."

A SWARMING INCIDENT.

[9563] Mr. Morrison, who lives in Preston, keeps his bees in an orchard belonging to Mr. Ball at Longton, a village about 4 miles out of Preston. In the orchard Mr. Ball also has several stocks of bees. On July 3 last Mr. Morrison cycled out to the orchard intending to place a super on a stock which was ready for it. On his arrival he found a swarm

of bees clustered on the alighting board of his hive, and Mr. Ball stood there gazing on the scene.

Mr. Morrison then learned that one of Mr. Ball's hives had swarmed. The swarm clustered for a short time on a tree opposite Mr. Morrison's hive, and Mr. Ball saw it leave the tree and cluster on the alighting board of Mr. Morrison's hive which it began to enter. There were a few angry bees about, but there was no fighting between the stock and the swarm, and not a dead bee to be seen when the swarm had entered. Mr. Ball asked Mr. Morrison what he thought about it? "Ah! Well!" replied Mr. Morrison, "bees are wonderful creatures, and no doubt they know I am a poor, deserving man, and so have come to help me!" Which seems as good an explanation as any.—LANCASTRIAN.

MID-BUCKS. NEWS.

[9564] I am very pleased to see the report of the Bucks. County Bee-keepers' Association. But I am sorry to say bee-keepers are very careless in Mid-Bucks., and after they have lost their bees from "Isle of Wight" disease, leave their hives open for other's bees to go in. From one of my stocks I have taken 100 lbs. of honey and from another 85 lbs. I think this is good for Bucks. I shall be very pleased to be a member of the B.C.B.K.A. and help all I can.—A. E. WARREN, Bletchley.

[The secretary of the Bucks. B.K.A., Mr. E. Ff. Ball, Nockhill, Denham, will be pleased to enrol you if you write him. —EDS.]

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

A. B. C. (Chorley).—*Queen ceasing to lay.*—It is not at all unusual for bees to cease breeding in October. We have known seasons when it was the exception to find brood or eggs in hives by the middle of August. It is quite possible for an experienced bee-keeper at times to fail to find the queen. Finding the queen quickly is largely a matter of practice, and at times of luck. Do not use more smoke than is necessary to subdue the bees, a large amount may drive the queen to leave the combs and seek refuge in some out-of-the-way corner. Your queen is probably all right, or the drones would not have been killed off.

W. C. S. (Letterkenny).—*Caucasian bees.*—We do not think you will be able to get Caucasian queens in England. You might perhaps get a "Blue" Caucasian queen from H. W. Fulmer, Box 10, Andalusia, Pa., U.S.A., price 1½ to 2 dollars. These are reported to be quiet to handle, but "Black" Caucasians are, so far as our experience goes, very vicious and most undesirable in other ways. Probably the contradictory reports refer to the two varieties. Some varieties of bees will swarm, no matter how large the hive or combs. We have had well authenticated reports of Dutch bees swarming before they have built out all the 10 frames of foundation given them.

Suspected Disease.

W. E. HAWKES (Chigwell).—The bees died from "Isle of Wight" disease.

G. SPENCER (Barnsley).—The trouble is "Isle of Wight" disease. There is no disease in the brood, it has been chilled owing to the adult bees dyng off until they were not numerous enough to cover and keep it warm.

MISS G. A. TUENEY (Suffolk).—The bees should have been sent in a small box. They were so smashed we were unable to examine them. The trouble is probably "Isle of Wight" disease, but it is too late in the season to apply remedies. As the stock is weak you had better destroy it.

J. M. W. (Hamilton).—No. 1 appears to be quite healthy, No. 2 is affected with "Isle of Wight" disease in its early stages.

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FOR SALE, 1917 queen; fine strain; still laying; guaranteed, 7s. 6d.—DAY, St. Asaph, Stevenage. 1 30

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1 CWT. light English honey, 160s.—KNIGHT, Kenwyn Apiary, Truro. 1 37

WANTED, one lot of driven bees, about 3lb. weight; guaranteed healthy. State price.—C. S. MORRIS, 13, St. John's-road, Putney Hill, S.W.15. 1 39

WANTED, good quality honey at 140s. per cwt. Sample required.—LEE, "Little Bowden," Burgess Hill, Sussex. 1 40

WANTED, W.B.C. brood and shallow boxes, also queen excluder, zinc.—J. YOUNGER, 6, Maid's Causeway, Cambridge. 1 16

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Staff-Sergt. P. V. Hood, The Hermitage Poultry Farm, Horton, Slough, Bucks.—R.A.M.C., B.E.F.

Sergt. F. L. Hersee, 8, St. John's Terrace, Littlehampton, Sussex.—M.T., A.S.C., Mesopotamia.

A DORSET YARN.

Bees are working assiduously on the perennial asters. I have not any, but in our neighbour's garden there are quantities; they are easy to grow, and their colours are very pleasing. They bloom a long time, and there are many varieties; a packet of mixed seed would give a great many seedlings. Plants are easy to purchase; old plants divided give better flowers than those left together for many years. It is one of those things that never die, and, like Tennyson's brook, "go on for ever."

We are now extending our lines of fruit. Apples—Lane's Prince Albert and Newton Wonder—at 10 ft. and 12 ft. from row to row, with black currants to give the early crop while the apples are growing into money. Worked apples of the best sorts can be purchased at 100s. to 125s. per 100, and black currants from 10s. to 20s. per 100. Plants like these give early returns, or one can thin out black currants and plant the cuttings where one wants them to fruit; they will soon root, and will give some fruit the second year. Of course, if one has youth and can wait one can plant cuttings of quick-rooting apples, which can be either left to grow into trees or could be budded with some of the choicer kinds that will not root. Apples like Lane's Albert fruit regularly, and there is sure to be plenty of blossom for the bees. Some varieties are a long time coming into bearing, so the bees would not get any food from one's own trees; and that, I take it, is what we all want. We plant asparagus between our fruits, single plants between the trees in lines 300 yards long, which give a good many bushels of succulent growths. In early June we let them grow away; they soon come into bloom, and then the bees have many thousands of flowers from which to sip the sweets for a long time. Do not think this plant must have special beds and special soil (of course, they revel in potassic salts, that occur naturally in the Vale of Evesham, where the old monks built their monastery and farmed the rich lands round it); if an annual dressing of sulphate of ammonia be given to the rows the feathery growths will run up 6 to 8 ft. high, and the black currants will send up thick, strong shoots from the base of the plants, which will give fruit like small grapes, and stuff like this always commands the best price. Going back to the black currants, in buying plants, see that they have no big, round buds far away beyond the natural size of what they should be, as that is a pest that is fastening on to this plant in many places. The result will be only half a crop of currants, as no fruit will come from the big buds; the growth is deformed by very minute animalculæ. If you plant cuttings, do not take out the eyes at the base (as we do for red currants and gooseberries), but dibble them in just as you take them off the trees, as there is a little insect called the currant clearwing (*Sesia tipuliformis*) which eats out the pith from the growths, and the branches die off in a very provoking manner. These are soon replaced from the dormant buds beneath the soil if the cuttings are planted as you take them off the trees; most market trees are on a leg having the lower buds cut off before planting.

With gooseberries, it is better to take off all the buds on the cuttings at the base, only leaving three or four buds at the top; it is easier to clean out the weeds from under them when they have 8 or 9 in. of leg. These are of far greater value to the bees for food, as they bloom earlier and are so much sweeter to their fastidious taste than are black currants. Personally, I think a lot of gooseberries for bees; the great numbers that are always to be seen on them when in flower is a proof to me what a large amount of food there is in the thousands of flowers. To go through the trees when in bloom it is most exhilarating to hear the loud hum of crowds of bees. The flower in itself is very insignificant, five sepals of a greeny hue and five very small petals; the fruit seems to be a part of the stalk. This

last season the fruit realised good prices, both when green and ripe. It was with wine made of gooseberries that the Vicar of Wakefield was wont to regale his friends and "cheer the hearts of his honour'd guests." Many years have come and gone since I read it, but memory harks back. It is astonishing how quick these cuttings grow into bearing bushes, even if young trees are purchased at 10s. to 20s. per 100. Plant early, and you get the value the first year, and besides, the bees get a taste of the blossom also the first year. At three years the fruit is very heavy, and in after years the crop is still weightier; as the bushes get big take out some of the old wood; I leave plenty of one-year growths, as these give the most and the finest fruits. As an instance of the value of two acres of gooseberries with apples in the lines at 12 ft. apart, I have been offered £200 if I will sell the freehold. It cost me a few years back £60, only £30 an acre. If I sold it my bees would be able to sip from the flowers, so I should be getting some income from it after in the honey sold.

All this is perhaps horticulture; but to me it seems to go hand in hand with apiculture; the success of one depends on the other. There is no reason that the man who loves his bees should be content with a few square rods of ground to call his own. Are there not over 50,000 square miles of rural England, a great deal of it only for the pleasure of the few, who "neither toil nor spin," and who will not have a plough used on any field in view of their windows? All must have the green tint of pasture. No wonder food is dear; acres of the finest land in Dorset, by the side of the River Stour (which also is privately owned) kept only for deer for one man's pleasure. Rural life to-day is a continual feast to the small farmer; he has what others cannot get. When they take their money to the trader, no butter for them! (at Slough market it fetched 5s. per lb.) The bee farmer who has a few acres instead of a few rods can keep one, if not more, cows. A good cow for a long time each year will make 8 lbs. of butter each week. Another thing money cannot buy is sugar; the bee farmer has honey, the purest and best of sweet things in our own loved land. My wife's two sisters went to each shop in one long street at the seaside. They could not get butter or sugar; we had to send butter from our own farm, or they would have, like Mother Hubbard's dog, "got none." Our craft will have to spread more in rural districts, and the land will have to be more easy of access to the small holder; then the wealth from the land will be more equally distributed among the citizens of Great Britain.

To my thinking, all bee-men should be co-operators (like the Street and Glastonbury Association, to which I referred some time back); all co-operate for the good of the members. Our interests are the same, but it is in rural England where our craft can extend the most, because the wealth of flowers is always at hand. Take the clovers as an instance; the bees sip the nectar (or it would be wasted), and the cows eat the hay made from it. It is the same with sainfoin in the chalk districts of Dorset. Bees get their fill, then sheep, cows, and horses eat it when made into winter fodder. In rural England are the trees that give so much nectar, beginning with the willow and ending with the sweet chestnut; all hedgerows are full of blackberries, and often plenty of holly trees. All are so much food for the bees; but in urban towns and cities they have to go so far for their stores, the bees cannot add to the surplus, as their fellow craftsmen can reap in rural districts. I read in the Old Book about the "vine and fig tree"; why should not all bee-men sit under them in their own lands and their children grow up on the lands that are owned by their fathers? Then they could sing in reality of "the land of their fathers," where now it is the land of the wealthy for which our sons are fighting, and many have paid the great sacrifice, to keep intact for them against the coming of the military hosts of Germany. I was once in camp at Bisley with the Hants Volunteer Brigade; in the company to which I "number'd off" only three of them owned their own house, one of them was the captain of the company. Rural England wants a land purchase scheme such as Ireland has, then the brains of England's farm hands could have some of the land that they now till for others; by spreading the purchase over a period of years (as Ireland does) the men would be able, before they "cross the bar," to redeem it for their own. Then the land would be "the storehouse of the nation, instead of the pleasure grounds of the rich."

I hope, Mr. Editor, you will not think these are the vapourings of a disappointed and envious Socialist, who has nothing, and wants what belongs to others, because it is not so. Some of our lands are already redeemed and some partly so, besides what we rent. Though my big, strong sons are gone from off the land to fight for the freedom of the world, and work is in consequence harder, we see the fruits of our labour—we reap the reward (as we should do). Sections of honey at 1s. 10½d., pears at 5¾d. each, Peasgood's Nonsuch apples at 7d. per lb., eggs at 5s. 3d. per dozen; added to this, rude health through simple living.

We grow the main things we want; we really live—every hour we are awake is a pleasure; no music but the birds and the bees, no pictures but what we see over miles of rolling downs and valleys, with sylvan giants dotted over the rich meadows, and the winding river meandering through it all on its way to the sea. No, there is no wanting what belongs to others; but others have a right to live the same simple life as we do and enjoy its pleasures, not a mere existence, as are the lives of countless thousands of the toilers of our own loved land.—J. J. KETTLE.

THE TREATMENT OF MICROSPORODIOSIS.

"Isle of Wight" disease, being a gastro-intestinal infection of the bee with microsporidia, would naturally call in its treatment for a disinfectant which is capable of killing the infecting organism without injuring the tissues of the bee. It is very doubtful that an honest claim could be made for the existence of such an ideal disinfectant; but, nevertheless, many recently prepared chemicals are bringing us still nearer to our goal. Of these one might mention, apart from Izal and Bacterol—Yadil, Kerol, Calcium hypochlorite, Di-chloramine — T, brilliant green, Acriflavine, and, better still, Proflavine. That the present method of treatment of this disease is correct (namely by spraying with suitable solution of the disinfectant, by medicating the bee food, by keeping the hive in a thoroughly clean and dry condition, etc.) need not be doubted, as evidenced by the good results obtained by intelligent bee-keepers who understood the nature of this infection and acted accordingly; but, on the other hand, when an unfortunate bee-keeper, in spite of clear instructions, uses strong solutions of the disinfectant which would then act as a poison instead of a beneficial drug, and when there is no Governmental inspection of diseased stocks or of neglected infected hives, which are left as a permanent source of wide infection, one should not wonder that so many failures are also recorded.

Before a bee-keeper could justly declare that a certain disinfectant has failed to act as a preventative, or as a cure for microsporidiosis, he ought to be sure of his diagnosis of the disease, with the aid of the microscope, if necessary; and before a bee-keeper could be justified in destroying his diseased stock and condemning it as hopeless, he ought to experiment with another non-toxic disinfectant that might perhaps be more suitable for his bees. The so-called "cures" advertised by money-makers who know nothing about chemistry, or bacteriology, and who do not dare to declare the composition of their "drugs," should not be trusted, and enlightenment of some bee-keepers on this point is very desirable, at least for the sake of removing one of the many factors of disappointment in bee-keeping, which tend to chill the enthusiasm of amateur bee-keepers of small means.

Another factor of great importance in the prevention, and the treatment of "malignant dysentery," as this infection is sometimes termed, is successful wintering, and this necessitates:—(1) Clean dry hive; (2) plenty of bees; (3) warm packing that does not at the same time prevent ventilation; (4) sufficient stores in the hive. But when the winter is very cold and damp, it is very difficult to secure all of these important conditions, and a weak stock, or even a strong one, is thereby predisposed to this, or other diseases. Mild artificial warming of the hive may be then indicated in the evenings. It helps to dry the interior of the hive and encourages the bees to take more food, instead of starving though in sight of plenty of stores. The cost of heating water for a large rubber hot water bottle, to be put on the quilts and covered by a blanket for preventing excessive loss of heat upwards, is practically negligible; but, though this way of artificial warming is suited for one who has one or two stocks, it is quite cumbersome in apiaries with 50 or 100 hives, and unless special winter shelters are provided nothing practical could be suggested, since the artificial warming by electricity would cost ½d. per hive per night, and that is not a small expenditure for one who keeps bees for gain, and not for amusement.

I am told that American apiarists keep their hives in cellars during the winter, to protect their occupants from the severity of the weather; and therefore in view of the loss of many stocks in winter, it is surprising that no attempt has yet been made in this country for sheltering the hives during the cold season, that reduces the vitality of the bees to a minimum, and hence makes them an easy prey for disease.

All experienced bee-keepers agree upon the importance of having a densely-populated hive during the winter, just as they agree upon excess of hive space, or, in other words, comparative under-population during the summer, the tendency in the first instance being to raise the temperature of the hive and to increase the protection of each individual bee, and that in the latter case being the prevention of swarming by giving the bees a freer movement, better ventilation, and

consequently not excessive heat. But when the autumn comes, and it accidentally happens that the queen ceases laying, and there is difficulty in obtaining bees to strengthen the weak stock, it is very difficult then to imagine how could such a stock be saved from the menace of winter. Here, artificial warming of the hive from the early autumn might save the situation and stimulate breeding. I have been artificially warming a hive both day and night during October, with the result that pollen is still being continuously taken in, except in cold days, when, in spite of the warmth inside the hive, very few bees attempted leaving the entrance, thus showing that on approaching the entrance and noticing the condition of the outside atmosphere they are not tempted to go out, but use their discretion and return to their combs. And, in any case, artificial warming at night should be quite safe and unattended with any harm. Without any noise or roughness in handling, and with only partial lifting of the roof, the introduction or removal of the hot-water bottle could be easily and securely done.

From the above statements, if their correctness be accepted, it is clear that for the treatment of microsporidiosis various factors should be considered, and unless all, and not only one or two of these conditions necessary for prevention and successful treatment are obtainable, the sufferers among bee-keepers, unless victimised through the shameful neglect of others, should only blame themselves, especially if they have the type of wisdom of trusting to luck.—A. Z. Abushady, Ealing.

THE BEE GARDEN.

BERRIES?

We have been inundated with injunctions, official and officious, to increase the production of foodstuffs by every means at our disposal. Many directions—some mutually destructive, many empirical—have been issued by the various departments whose creation and multiplication are by some considered to be not the least of the many evils entailed by the official-English idea of how to wage war.

A victim to the contagion of example, I propose to interrupt my notes on roses, in order to discourse of a group of plants, the blossoms of which yield nectar freely to the bee and the fruit whereof is rarely refreshing to man.

I am led to do this by the consideration that now is the best time for planting any or all of them, and timely planting is, with most things, the chief factor in success.

From the bramble (*Rubus fruticosus*) and the raspberry (*R. idœus*) by crossing and re-crossing, a class of vigorous, hardy, and prolific berries has been obtained, which includes the varieties distinguished, even where not differentiated, by the names Logan-Berry, Low-Berry, Phenomenal-Berry, New-Berry, Hailsham-Berry, King's Acre Berry, Laxton-Berry, etc.

All these have strong claims to a place in the garden, but where this is small a selection must perforce be made, and a short description of each may serve as a guide to the most satisfactory choice.

Logan-Berry.—The earliest introduction in this class. The fruit, an inch or more in length, is borne in clusters, and is maroon in colour; acid when half ripe, it is sweet enough for dessert when dead ripe. Its chief value, however, is for culinary purposes, and for preserving, as it makes a delicious jam.

Low-Berry.—Named after the raisers, is an immense hybrid blackberry, the fruits often measuring 2in. in length. Their flavour, when ripe, is delicious, and the hard core characteristic of the Logan-Berry has been eliminated. Where room can be found for two only, I recommend the two preceding in preference to any of the following:—

Phenomenal-Berry and New-Berry.—Both are results of further crossings between the Logan-Berry and the Raspberry, the well-known variety of this latter, Superlative (Bunyard), being one of the parents of New-Berry. They thus have the size, shape, colour and habit of the Logan with the flavour of the Rasp. [Pardon the provincialism.] From both, too, the hard core of the Logan is absent, their value, especially for dessert being thereby increased. Of the two I prefer Phenomenal for preserving, and New for surreptitious mouthful when working in the garden.

Hailsham-Berry is an autumn-fruiting sport or seedling from the raspberry; less acid than the hybrids, a dessert fruit, crimson in colour and very large. The culture differs from that required for any other, in that the plant fruits on wood produced in the same season. This new growth should be encouraged by cutting the old canes to the ground by, at latest, March, mulching and watering freely if a drought set in, and by the application of liquid manure a warm position is best for this subject, the crop being larger and the fruiting season longer the more sun it gets.

King's Acre Berry, from the home of Cranston's Excelsior Onion, is a new and quite distinct hybrid, fruiting earlier than Logan, and favouring the Blackberry more in flavour and colour.

Laxton-Berry, like Low-Berry, named after its raisers, is, in contrast to the pre-

ceding, similar to the Rasp in colour and flavour. It is good for preserving, and is a strong grower, canes reaching a length of 8 to 10ft.

Unless otherwise indicated, the simple culture of all the foregoing is as follows :—

Being of similar habit and appearance to the bramble, they are useful for covering tree stumps, fences, trellis, arches, pillars, pergolas, and screens, or for training on a wooden framework against walls or alongside paths. A distance of 8ft. should be allowed from plant to plant; 10ft. for Low-Berry. Generous treatment should be given, and after planting the soil near the stems should not be chopped over, as these are shallow-rooting subjects. A mulch of hop or stable manure should be given, and liquid manure applied freely, after watering, in the summer. As new growth is made the young canes should be loosely tied together and staked to avoid injury. As soon as the fruiting season is over the old canes should be cut back to the ground and the young ones tied in their places, care being taken not to bruise or pinch the rods, as they are very tender.

Ladies and soft-handed *rouds-de-cuir*, like the writer, are advised to wear gloves when handling these plants, as all are more or less prickly, and some have the objectionable habit of leaving their thorns in one's flesh to fester there. Propagation is carried out either by division of the root clump or, preferably, by bringing the ends of the rods in contact with the soil, when rooting readily takes place. To avoid displacement the tips may be pegged down or a heavy object, such as a stone or brick, may be laid on the cane a few inches from the end. It is quite unnecessary to make an incision as is done in layering carnations. When new vertical growth has been made from the tips, sever the rods an inch or two away, and in autumn plant out the layers in their fruiting position. Unless very weakly, none of the new rods need be thinned out after the first season, the root system being vigorous enough to support all the growth made.

Native varieties of the Blackberry can be cultivated, but, frankly, I do not consider any one of the seven worth the space and trouble involved, whereas there are several large-fruited American varieties that are, notably the *Parsley or cut-leaved (R. laciniatus)*, which not only bears large clusters of richly-flavoured fruit, but also makes a very ornamental climber for old trees, etc.

Wilson Junior has, like the Hailsham-Berry, the upright habit of the Raspberry, but is a stronger grower, the canes sometimes reaching 7 or 8 ft. in height.

A Japanese variety (*R. phœnicolasius*), known as the *Wineberry*, is grown here with a fair measure of success. The berries somewhat resemble Mulberries, but are very transparent. They are good for preserving. The foliage is decorative.

A plant called *Strawberry-Raspberry* is occasionally advertised in gardening journals. This subject is rather a disappointment, the fruit often failing to set. The shrub is about 1 ft. in height, with foliage rather like that of the Raspberry and flowers resembling those of the Strawberry. As a fruiting plant I could only recommend it to those to whom the aleatory is attractive, but it has some claims to attention, as a rock-garden novelty.

The *Strawberry tree (Arbutus unedo)*, recently the theme of Mr. Kettle's envied pen, is in quite a different category from any of the foregoing. In Southern Spain and across the Straits, where it is known as el *madroño*, the fruit of this shrub is well known from the curious fashion in which it is vended.

The fruits are impaled, 18 or 20 of them, on a split bamboo, which is stuck vertically into a large and fleshy cactus leaf serving as a tray. The price is *un perrito* or *un perro gordo* (a puppy or a fat dog) equal to ½d. and 1d. respectively per stick. I have never noticed it fruiting in this country. Any note Mr. Kettle may have taken on this subject would, I am sure, be heartily welcomed by your readers in general, and especially by—A. F. Harwood.

COMBATING "ISLE OF WIGHT" DISEASE, OR RE-STOCKING IN GLAMORGAN.

As in other parts of the country, Glamorgan suffered from the ravages of the dreaded "Isle of Wight" disease until there were very few stocks left.

The Glamorgan B.K.A. tackled the problem early this year, with the result that there has been a considerable increase in the number and quality of the stocks.

The local Association adopted the scheme suggested by the parent organisation, and endeavoured to find amongst its members one having the necessary experience, accommodation for an apiary, and an enthusiasm to make the necessary sacrifice that the scheme was bound to entail.

Mr. Hardcastle, Glandwr, Llanishen, Glam., who possesses the Second Class Expert's Certificate, was prevailed upon to voluntarily undertake these onerous duties.

An apiary was then established on land adjoining Mr. Hardcastle's residence.

The object of the scheme was to raise and distribute throughout the county a number of stocks of bees at a reasonably low price.

Members of the Association were invited to send in applications for nuclei at a probable price of 12s. 6d. each, and the response was so satisfactory that it soon became evident that all applicants could not be supplied.

The writer has had the pleasure of visiting the apiary on a number of occasions, and the officials of the Glamorgan B.K.A. have naturally taken the keenest interest in the development of the scheme and made frequent visits.

Owing to the difficulty in obtaining stocks immune from disease, the scheme was in danger of being dropped, when Mr. Hardcastle placed his five stocks at the disposal of the Committee.

At last a start was made. The nuclei were housed in brood boxes with a division board down the centre, so that two nuclei might be accommodated in each. Temporary roofs were constructed of zinc, boards, and felt. Records were kept of the setting of queen cells, hatching, introducing, and laying of queens, and each queen was thoroughly tested before despatch.

In all some 24 nuclei have been distributed throughout the county, and beekeepers in Glamorgan are again looking forward to well-stocked apiaries.

The success of the scheme reflects the greatest credit upon the skill and resource displayed by Mr. Hardcastle, who, I feel sure, will be delighted to give his experiences and advice to any interested in the work.

The severe weather of early autumn threatened to leave the nuclei weak to face the winter, so the energetic secretary of the Association, Mr. Wiltshire, assisted by the Vice-Chairman, Mr. Freeman Gravil, immediately circularised members, giving valuable advice on autumn feeding, and at the same time offering to supply candy which had been obtained from the Board of Agriculture.

Mrs. Hardcastle is also a keen apiarist, and has rendered her husband considerable assistance.

Messrs. H. Edmunds and R. J. Edwards have also done much to make the scheme a success.

Now that an apiary has been established, it is to be hoped that the scheme will become a permanent part of the work of the Association, thus affording opportunity for members to obtain bees at a reasonable cost and providing a centre where they can receive efficient instruction and advice relative to all matters connected with the craft.—W.

THE CURE OF THE "ISLE OF WIGHT" DISEASE IN THE HONEY BEE.

BY E. E. LOWE, B.SC., F.L.S., CURATOR LEICESTER MUNICIPAL MUSEUM.

The publication of Mr. S. H. Smith's advertisement on page 324 of the BRITISH BEE JOURNAL for October 11, 1917, in which he mentions "proflavine" and "acriflavine" as being efficacious in the treatment of "Isle of Wight" disease, impels me to publish the following account, which I originally intended to keep back until further experiments had confirmed and extended the results.

On April 14, 1917, I attended the annual meeting of the Leicestershire Bee-Keepers' Association, to offer my services in a full investigation of the "Isle of Wight" disease, which I proposed should be undertaken with the co-operation of the members. The meeting showed the greatest appreciation of my offer, and those present undertook to supply me with all the information and help they could.

Efforts were first directed to securing specimens of diseased bees for investigation, but owing to the fact that I was unable to hear of any members who then possessed affected stocks I did not come into contact with an actual case until July, 1917. In the meantime, I had been discussing the general properties of the disinfectant flavine, which has been successfully used in the treatment of wounds in the British Army, with Col. C. J. Bond, C.M.G., F.R.C.S., of Leicester, and it occurred to both of us that, if an opportunity could be found, it would be well worth while to experiment with acriflavine in connection with the "Isle of Wight" disease.

On July 6 I obtained an apparently healthy swarm of bees, which was at once successfully hived at the Leicester Museum. On July 11 numbers of the bees were seen crawling on the grass in front of the hive, and a batch had congregated on one of the legs. Previous to this the bees had been noticed to be slow in taking wing from the alighting board and to have a distended look. On July 16 I had a visit from Mr. S. Jordan, of 25, Longfield Road, Bristol, a well-known bee expert of many years' standing. We went to the hive and carefully examined the stock, and Mr. Jordan expressed his conviction that the bees were suffering from "Isle of Wight" disease, pointing to the "crawlers," the brown excrement which he squeezed from their distended bodies, and the dislocated wings of many, as symptoms confirmatory of an opinion based on a lifetime's experience. Having already obtained some acriflavine through

Col. C. J. Bond from Dr. C. H. Browning, Director of the Bland-Sutton Institute of Pathology, Middlesex Hospital, W., I at once placed a feeder on the top of the brood box containing a pound of honey, to which had been added 40 cubic centimetres of a solution of acriflavine (strength 1 in 1,000, *i.e.*, one gramme of acriflavine to a thousand cubic centimetres of water). In addition to this I sprayed the bees, over the top of the frames, with a quantity of the flavine solution (1 in 1,000) until most of the bees were distinctly wet. The next day the bees appeared much livelier and more alert than at any time since their arrival, but during the subsequent week crawlers appeared from time to time. They were, however, much more active than those previously seen, and were generally engaged in vigorously working their abdomens and rubbing their sides with their hind legs. I was glad to notice that the bees were taking the acriflavine-honey down quite freely, and gradually the crawling symptoms disappeared. On opening the hive, in the latter part of August, I found the colony much reduced in numbers, but looking beautifully clean and healthy, with a quantity of acriflavine-honey stored in the brood combs. This was very obvious owing to the greenish fluorescent tinge which acriflavine imparts to mixtures. There were no signs of crawling, but the small size of the colony led me to think that most of the crawlers had probably not been cured but had died off, the inference being that the acriflavine had prevented the infection from spreading to the young bees which had taken their place. I am inclined to think that if I had mixed a little honey with the spraying solution of acriflavine possibly I should have saved the diseased members of the hive, because they would have taken in the solution much more readily. This is a point calling for further trial. During the course of my experiments I tried feeding the bees with a syrup made from cane-sugar, to which acriflavine solution (1 in 1,000) had been added, at the rate of twenty cubic centimetres of solution to each pound of syrup. The bees, however, refused to take this mixture, and I had to return to honey. Latterly, since the advent of colder weather, the bees have refused to take down even honey, when acriflavine was mixed with it to the above strength, and I am forced to conclude that it is only during that part of the year when they are fairly active that they will take the acriflavine from a feeder. This is confirmed by Mr. J. Waterfield, of Kibworth, to whom I gave a supply of acriflavine solution for the purpose of experiments upon his own bees. They, like mine, refused to take down the solution, although supplied in honey.

(*To be continued.*)

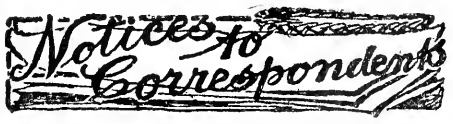
The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

SUGAR FOR MAKING CANDY.

[9565] I am glad to see that from your issue of October 18, 1917, that the Government have given (?) some further sugar for manufacturing candy, and I hope the restrictions will be continued, as it has been *very well made*, and the bees eat every atom of it: and after two years' experience of it I find the bees most healthy. I am thankful to know where I can get good bee food at a price far cheaper than having to buy new swarms in the spring to replace starved bees. From 30 years' experience I am sure that those who *cannot* and will not keep bees in bar frame hives had better *go back* to large skeps and supers, and attempt *smaller profits*, when we should have more bees alive in this country.—Major R. W. Heathcote, Hampshire.

TWO QUEENS IN ONE HIVE.

[9566] In looking through the British Bee Journal I see a correspondent writes about two queens in one hive. I have had a similar experience. On July 1 a swarm from a driven lot of bees I put on eight frames and afterwards filled up to ten by putting two at back. On July 25 I looked through the hive and found two queen cells, out of one a queen had hatched, and one had been destroyed. How long they had the virgin queen in the hive I could not say, a day or two perhaps: both queens were in the same hive till September 2, when the old queen was cast out on the alighting board. Both queens had been laying; the combs were a mass of brood and eggs, but very little honey, as they had no room to store. They are hybrid bees, Italian and native cross.—S. Preece.



T. MILLER (Southwick).—*Outdoor Feeding.*—We do not think this advisable. It may probably cause robbing, though this would not be so likely with your plan of keeping a constant supply of food 50 yards from the hives. Other objections are that one is feeding all the bees in the neighbourhood as well as one's own, and those bees in the apiary (the weakest) most in need of food will probably get the least, as they will be outnumbered by the bees from strong colonies.

VERACITY (Wexford).—*Honey from Red Clover.*—The hive bee is unable to gather nectar from red clover, as its tongue is not long enough to reach to the bottom of the florets. They will gather some from the second crop when the heads of the clover are not so large. The humble bees are the only kind that are able to gather the nectar from the normal-sized red clover.

The address of Messrs. Jas. Pascall, Ltd., is 100, Blackfriars-road, London, S.E.1.

J. SMITH (Malton).—(1) There is not the slightest difference in the working of a first and an after swarm. The only difference is that with the first swarm there is, with few exceptions, an old queen. The swarms that follow all have a young, and possibly virgin queen. (2) The position of the bees in the skep, or hive, will tell you nothing.

Suspected Disease.

J C. (Handcross).—The symptoms you describe point to "Isle of Wight" disease, but we fail to find any symptoms of disease in the bees sent.

W. MASCOT (W. Bromwich).—The trouble is "Isle of Wight" disease.

C. S. G. (Lutterworth).—The bees died from "Isle of Wight" disease.

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FOUR 28-lb. tins pure Cambridgeshire honey, 168s.; sample 4d.—W. JOCKMAN, Sidney Farm, Cherryhinton, Cambridge. l 34

1 CWT. light English honey, 160s.—KNIGHT, Kenwyn Apiary, Truro. l 37

WANTED, to enlist a small company of 50 to 100 discouraged bee-keepers from all parts of Great Britain. If you have had poor success try new methods calculated to give 100lb. surplus extracted honey per hive in 1918. No lost motions, no fussing, no swarming, no disease. There will be no charge, the 100lb. will be all your own, but 20 per cent. of any honey gathered beyond that amount must be sent to hospitals for the use of our wounded soldiers and sailors. Mark letters on lower left-hand corner D. B.—S. H. SMITH, 30, Maid's Causeway, Cambridge. m 1

WANTED, a fertile queen, to arrive Manton Grange, Oakham, Thursday morning, November 8, to be sent in travelling box suitable as introducing cage also, addressed to MISS GRAHAM. m 2

WANTED, W.B.C. and Double Conqueror hives.—WOODLEY, 42, Bromwich-street, Bolton. m 3

WANTED, 56lb. second-rate English honey; must be from a healthy apiary.—Price and particulars to C. S. MORRIS, 13, St. John's-road, Putney Hill, S.W.15. m 5

FOR SALE, 7½cwt. prime Hampshire honey, 160s. per cwt., in 28-lb. tins, free on rail.—TRUEMAN, Harroway-road, Andover. m 6

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

MESSRS. STONE & SON, LTD., Chemists, Exeter, are buyers of English Beeswax, in large or small quantities. Write, stating quantity and price required. a 3

NOVEMBER price for fertile queens, 10s. 6d. each.—PRYOR, Breachwood Green. m 4

BEES WAX, in any quantity, 1s. 9d. lb. given. Also buyers of honey sections.—CHARLES FARRIS, 71, Bishopsgate, London, E.C.2. a 8

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.

HONEY FOR SALE.
Cuban, Californian, English, Irish.
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LECTURES AND DEMONSTRATIONS ON BEE-KEEPING.

W. HERROD-HEMPSALL is open to give the above in any part of the country; providing his own lantern, slides, etc., demonstrating tent. **Also private instruction at pupil's own residence.** Terms on application.—W. B. C. Apiary, Old Bedford-road, Luton, Beds.

BURTT, Gloucester, FOR BEE APPLIANCES.
ILLUSTRATED CATALOGUE FREE ON APPLICATION

ADVICE AND HELP NEEDED.

We shall be pleased to hear of any bee-keeper near Conway who would give a little advice and help to a beginner in beekeeping.

A DORSET YARN.

At Wareham market, on Thursday, I saw some fine sections of very white-capped honey, and asked the man that brought them where they came from. He said "Corfe"—that is, Corfe Castle, not Corfe Mullen, where the Violet Farm is situated. He said bees had done well in his neighbourhood, and, what was to me the best news, were free of disease. Many jars of honey I noticed were labelled "Heather": some of it was sent by farmers and some by the gardeners on the big estates. There must be a lot of bee-keepers still in the Isle of Purbeck, as this neighbourhood is called.

This is a delightful part for the lover of Nature, beside the ruins of the old castle, which even Cromwell's guns could not entirely level; there are the romantic "chines" leading to the sea, the haunts of the smugglers in olden days at Chapnan Pool, and the rocky sea coast at Kimmeridge. Indeed, the sea coast on to Lulworth Cove is wild and grand, where the Sea Thrift (*Armeria*) grows wild, and huge clumps of the blue Sea Holly, making fine colour to the eye. I once was in camp with the old Volunteers near this, and steep were the hills, one had to sling the rifle and use both hands as well as feet to climb up them. All the boundaries are walled with stone, not hedgerows, marking the fields as most rural districts round here are. When this terrible war is over I hope to be able to visit these bee-keepers, for I feel they must have many things of interest to show me in this romantic neighbourhood. To-day the one cry of all in authority is "production." Old Carlyle said there were only two sorts of people, mostly fools; we have have been living in a fool's paradise. It has taken three years of bloodshed and carnage to show the British people that "there was something rotten in the state of Denmark"; that the system of land tenure, this exclusive ownership, is not for the betterment of the people, not the best for production. All wealth comes from the land. Our land is one of the best in Europe; it produces more bushels of corn to the acre, it gives the greatest weight of roots to the acre, and yet it is the least cultivated. Most young men rushed to the towns, others to the great continent of America. The land was lumped into large farms, but the labourer has worked hard and lived hard, with no hope of advancement. One of them told me he always depended on his bees to get his new clothes, and then they died; he would have to go on still with his old clothes, unless someone gave him a swarm to re-start again (of course he had them). If this man had a bit of land on his own he would be reaping the fruits of his labours, instead of reaping for another. I look on some of these men as Nature's noblemen, clever, strong, and self-reliant, having nothing that they could not pay for; yet their advancement in life seems hopeless under the present system of big farms and acres of pleasure parks for the few. If only the bee-men of the cottages were helped into land to work for themselves, it would be one step towards the old yeoman peasantry of other days; and this can only come by co-operation, pooling our resources and casting lots as to which member should have the first holding, as many building societies do. Acts of Parliament have made it possible to get land for the people, and County Councils are making it possible to get trucks of manure from military camps at 5s. per ton: to me the prospects of the small-holder or owner is a rosy one. One small-holder, who at one time had a shop, and had also been a hansom-cab driver, told me last week he had sold this year, off his 2 acres, £150 worth of vegetable produce. He still had a ton of potatoes to sell, and the ground was full again with winter vegetables. This was one who went into the towns in early manhood, and has once more come back to the land as the healthiest of all occupations. If he had only taken to bees as well, he could have added another £50 to his income; but big as he is, he is somewhat afraid of them. Now in many villages of Dorset the houses are dilapidated, and what few men are left must work on the estates and farms. One cannot help one's thoughts running to the lines in "The Deserted Village":—

"Ill fares the land, to every ill a prey,
Where wealth accumulates, but men decay;
Princes and peers may flourish or may fade,
A breath can make them as a breath has made—
But a sturdy peasantry, their country's pride,
When once destroyed can never be supplied."

I may have repeated this in the JOURNAL before; you must pardon me the repetition, if so. I want to see our country more self-fed, to grow more, and let more wealth be kept in our own land, not to depend so much on the foreigner for our food. The man who has land can grow a few lines of haricot beans. Besides providing food for his bees, he can use some of them when green and succulent; he can then have, as we do at the Violet Farm, a few bushels of dried beans which can be soaked in water and cooked in winter. If runner beans are grown, sow the white ones; they can be used in the same way, besides being food for the bees, and having plenty of green beans for summer use. Each home would be more self-fed, not having to go to the trader for so much, and those who, like myself, do not eat flesh, will want from the trader still less. We have two wagon loads of ripe marrows for use in the winter: we consider them of greater value as food when ripe. In the summer we have green peas; marrows are not in it with them. We have peas from May to September. All these are food for the bees as well as man. Going back to the marrows, all of them were grown on three rows: the first cutting, when green, at 5s. per dozen more than paid for the ground and labour, giving me a good profit. Ripe marrows can at small cost be made into chutney, delicious to eat.

Many of us think the land from which all our food comes should belong to the State, not to private individuals. Then all would be let at the same rent (if the land was the same quality), not as it is now: the large farmer gets his at 5s., 7s. 6d., 10s., 15s. per acre, the small one, 20s., 40s., 50s., 60s. and 80s. for his few acres, and often without a house to live in. The large farmer often has from £1,000 to £2,000 worth of buildings on the land. I rent some at 20s. and 25s., but for ten years (before we bought) I had to pay 60s. and 80s. per acre on one estate, without a house to live in. On the other side of the hedges, one farmer had his at 12s. 6d. an acre and another at 15s., with farmhouse, buildings for cows, horses and pigs, barns, and cottages for men. Of course, it was bees that helped me on with the payments, because they fed at the other farmers' expense on their clovers, as well as the fruit blossoms. The bee-keeper who has wealth has just now a fine opening for investment. There are a great many farms in Dorset, rich dairy lands, just now advertised for sale; there are others not quite so cheap, but for value not dear. One close by me is changing hands, a very small one, 14 acres for £700—there are £500 worth of buildings on it. On the margin of the heather country, high up on the hills, the small fields are white with clover in summer. Don't think, Mr. Editor, I have any interest in booming these, but the bee-man might go a long way and fare worse for investment than in Dorset. I see the bees are still—October 29 and 30—carrying in pollen of a very pale colour; it would be interesting to know from whence it comes. It is the colour of arbutus, but still it might be late charlock. They cannot be breeding now, so it must be for future stores. I also notice that one of my lots has been cleared out by robbers—a bar-frame lot of two years' standing; it swarmed late, and the swarm went away. I suppose it had not time to build up population, to defend its stores—it seems the law of Nature that the weakest goes under; the strong get stronger with the addition of extra stolen food for spring supplies.—J. J. KETTLE.

THE BEE GARDEN.

ROSA AND THE BEES.

(*Conclusion.*)

Weeping Standard.—This is a form of rose tree which is rapidly growing in appreciation. It is obtained by budding on a tall briar stem such varieties as Jersey Beauty, Hiawatha, American Pillar, Joseph Billard, Evangeline, Auguste Barbier, Diabolo, etc., whose pendulous habit lends itself to training into umbrella-shaped heads. These standards are particularly effective as centre-pieces for beds or as specimen plants in lawns and in large pots, tubs, or boxes.

Arches.—Nothing is more inartistic than the erection of arches haphazard over garden paths. An arch should serve a definite purpose, such as spanning a gateway, forming an opening through a hedge or fence, indicating a separation of one garden from another, e.g., spanning the head and foot of steps leading from rose garden through rock garden to water and bog garden, etc.

The flimsy, galvanised structures sold for the purpose are but a poor substitute for a well-made arch of properly-selected rustic wood, barked oak for preference.

For use in this connection the wichuraians are pre-eminently adapted. Their great vigour, slenderness and pliability of stem, beautiful and in many cases almost evergreen foliage, mark them as peculiarly fitted for the purpose. The varieties advised for weeping standards, together with Paradise, René André, Gardenia, Milky Way, Ruby Queen, and such multifloras as Blush Rambler, Starlight, Stella, Leuchstern and Macrantha are all suitable.

Pergolas.—The varieties above-named cannot be surpassed for employment on the pergola. Others quite as good for the purpose are Paul's Single White, Flame, Coquina, and Joseph Lamy.

Pillars.—In cases where arches would be meaningless and a pergola too elaborate, costly, or difficult, a beautiful effect can be got by the judicious use of pillars. Vertically trained to poles or stakes of larch, birch, or other suitable wood, the following make objects of great beauty:—

Tall Pillars (9ft. and over).—Lemon Pillar, Sheila Wilson, Pink Pearl, Carmine Pillar, Ethel, Cupid, Maharajah, Splendens (Myrhh-scented), Ruga, Morgenroth, the Lion.

Short Pillars (8ft. or less).—Bardon Job Trier, Buttercup, Veilchenblau, Mrs. O. G. Orpen, Wallflower, Sultan of Zanzibar.

I remember well the provincial show of the National Rose Society at Luton on July 14, 1909. It was a Wednesday. I cycled over from Ealing to see what I was assured would be a highly successful show—it was one of the best—and to realise another wish, long-cherished, to pay a visit to the W.B.C. apiary.

All went well that day; the weather was perfect, the show well attended, and not only by humans, but by bees. In one of the tents the number of hive bees on some sprays of Sultan of Zanzibar was commented upon freely by visitors who obviously were ignorant of the proximity of one of the best-kept apiaries I ever wish to see. The presence of these eager searchers served as a reminder that my time for a visit to their home—which I had yet to find—was short, so I hurried off on foot to where, in an upward trending rightward lane stood the neatly aligned and oriented rows of hives in the young orchard, so symbolically full of promise.

A red-letter day that, indeed; roses bees, swimming, cycling, all linked with the good fellowship of other lovers of these best of good things. I must not dwell here and now on these reminiscences or, the space allotted me being for the nonce exceeded, my "in conclusion" will perforce have to be followed, pulpitwise, by a "finally" in another issue. *Donc revenons a nos rosiers!*

Shrubberies.—Either alone or interspersed with other flowering shrubs, roses, of the Japanese kind known as Rugosa make a fine shrubbery. The large blooms, varying in colour from deep crimson to pure white, are followed by hips or seed-pods of great size and interesting colour and shape. The broad, shiny, deep-coloured foliage is noteworthy, quite apart from the bloom. A fair amount of space is essential for these roses, as they attain quite respectable dimensions. They succeed well, too, in partial shade. At Heathrow, round a tall old acacia (*robinia pseudo-acacia*) were grouped Ramanas (*rugosas*) roses and Penzance hybrids, in front of these were Irish and Austrian briars, while set round at a distance, sentinel-wise, were pillars of some of the varieties mentioned above.

In fine weather, from early June to late September, bees thronged there. Above, in the acacia, below, among the wide-opening roses, around the pillars, especially Trier, Veilchenblau and Goldfinch, they rioted and danced. No one, seeing—and hearing—them there in such numbers and such spirits could doubt the attraction of the rose for the bee.

Next year, with the editors' permission, I may say something more about roses; roses as screens, as solitary specimen bushes, roses for pot culture and as a table decoration, but for the time being I'll pass to other subjects, only adding here that if these notes lead any of my readers to extend their acquaintance with the garden's Queen, and they seek any further assistance to that end, then, for a stamped-addressed envelope, it's theirs for the asking.—A. F. Harwood.

THE CURE OF THE "ISLE OF WIGHT" DISEASE IN THE HONEY BEE.

(*Conclusion.*)

I have given out supplies of acriflavine solution to three local bee-keepers whose stocks have been attacked by the disease within the last three or four weeks, but, owing to the lateness of the season, there have been no visible effects to report, and, although I consider my own results distinctly encouraging, I should not have ventured to mention acriflavine at this stage but for Mr. Smith's advertisement. It now seems important to have all possible information regarding it, and I hope Mr. Smith will publish his experiences, which would appear to be more extensive than mine.

Turning to the question of the cause of the "Isle of Wight" disease, I have been quite unable to detect any trace of the protozoan parasite *Nosema apis* in any of the diseased bees which I have examined. I have submitted dozens from the infected hive at the Museum to a very careful microscopic examination, and have also examined specimens from four other localities in Leicestershire, all of them "crawlers" from hives showing all the ordinary symptoms of "Isle of Wight"

disease, without finding *Nosema apis* in a single case. I am, therefore, at present in complete agreement with Messrs. Anderson and Rennie, who state, in an important paper in the Proceedings of the Royal Physical Society of Edinburgh, 1915-16, volume 20, part 1, pages 16 to 61, that, after extensive observations and experiments, they are "unable to recognise any casual relation between the presence of this parasite and the disease."

In all the specimens I have examined bacteria were abundant in the contents of the rectum, and it is difficult to resist the impression that the trouble may be due directly or indirectly to these organisms, although the statement is made by Dr. Malden, in the Board of Agriculture's 2nd Report on the "Isle of Wight" Disease, in July, 1913, that "investigations have failed to reveal any species of bacteria constantly associated with the symptoms of the 'Isle of Wight' disease."

As a beginner in bee-keeping and a new worker in the field, I am impressed by the need for much further investigation as to the cause and cure of this pestilence I hope, however, that, in view of the good results which have been claimed for Bacterol and the possibilities presented by acriflavine, bee-keepers may take courage and face whatever risk may be involved in bee-keeping as a national duty in these days of sugar shortage.

It should be mentioned that my work is being carried out under the auspices of the Museum and Libraries Committee of the Leicester Corporation, who have provided me with every facility. On their behalf I should be glad to supply, free of charge, sufficient acriflavine for a good trial to any bee-keeper having the disease among his stocks who will apply to me at the Leicester Museum personally or by letter, and who will undertake to send me an account of the result.

October 15, 1917. E E. Lowe.

"YADIL" AND "ISLE OF WIGHT" DISEASE.

I have been asked to give in the Journal a detailed statement on the probable value of the disinfectants referred to in my previous communication on "The Treatment of Microsporidiosis," and to specify those which are really worthy of trial. It would not be compatible with my earnest wish to encourage research on the prevention and treatment of bee diseases to comply fully with such a request. Much is claimed for these, and for other comparatively non-toxic disinfectants, and a reasonable success has been already recorded for them by various clinicians; and undoubtedly it would be quite erroneous to consider any one of them as an index to the probable value of the others in "Isle of Wight" disease. A fair trial of each of them ought to be practised by researchers, who would render a great service to their brother bee-keepers by publishing full reports on their investigations. "Proflavine" has already had its short trial with apparently very good results, and let us hope its success will be continuous. It remains to be seen whether such preparations as "Ensol," "Yadil," "Halazone," etc., will or will not give such good, or even better, results. From the theoretical conclusions which I have arrived at by studying the literature of "Yadil" (Trimethenal allylic carbide compound), I feel much inclined to recommend the use of this disinfectant both in the prophylaxis and treatment of "Isle of Wight" disease. It is claimed to be *non-caustic*, *non-toxic*, *non-irritant*, and, in a 5 per cent. solution, the form in which it is supplied, it is practically equivalent in bactericidal effects to *pure* phenol! Among other features put forward by its manufacturers, and apparently fully endorsed by many investigators at various hospitals and institutions at home and abroad, is that "although so powerful, it will not harm the most delicate tissue. Internal dosage of 60 minims, three times daily, is being prescribed even in such delicate conditions as gastric ulceration, with invariably good results. It contains neither copper, mercury, arsenic, iodine, ether, alcohol, phenol, nor cresol. It is intensely diffusive, does not stain nor deteriorate, fully miscible with water, non-flammable, and can be used freely for both internal and external antisepsis." A suitable dilute solution of "Yadil" for spraying, or for medicating the bee food, will be found to cost not more than 1d. per gallon.

Let me say finally that too much stress could not be laid on the urgency and extreme importance, especially as a war measure, of a Governmental supervision over apiaries with the view of isolating and treating diseased stocks, and of carefully destroying those that do not respond to treatment, with suitable compensations to their owners. Without the existence of such a wholesome supervision, it is only a palliative treatment to use antiseptics, etc., since a successfully treated stock might be easily re-infected, and, consequently, microsporidiosis will never, under the present conditions, become a rare disease of bees in this country.

Sir Arthur Newsholme, the medical officer of the Local Government Board, in his latest annual report, says that "the amount of enteric fever has been so small

as to justify the hope that this disease will ere long count among the almost extinct diseases of this country." To students of public health who appreciate this wonderful result of preventive medicine, and who clearly understand the various factors that led to its achievement, the contrast between the methods of combating these two infections—the one in human beings, the other in bees—and between their consequent results, is only too clear.—A. Z. Abushady, Ealing.

THE FLAVINES.

Sooner or later it was obvious that the marvellous results obtained by the use of new methods of treating wounds and disease at the Front would prove useful in combating disease in the apiary.

One of the reasons why the old technique was inefficient was because the old type of antiseptics injured the tissues of the patient. Because of this tendency, carbolic acid, iodine, corrosive sublimate and other old favourites were soon discarded. A much higher standard of efficiency was formulated and the test comprised the following essential qualifications for an ideal antiseptic:—

1. Non-poisonous and non-irritant to any tissue of the body.
2. Harmless to the phagocytes (the white warrior cells of the blood).
3. Potent to kill all disease germs in the presence of blood serum.
4. Stimulating to repairing tissue.

The valuable solutions of the hypochlorite group soon introduced were of wonderful effectiveness in treating wounds; but tested in the apiary in 1916 they were too watery, could not be fed freely, and needed too elaborate a technique.

Ever since Ehrlich achieved his object in salvarsan every research worker upon chemical lines had been on the *qui vive* for similar effects from combinations of the aniline dye series. "Malachite green," "crystal violet," "brilliant green," and many others had been proved to possess antiseptic powers. Dr. C. H. Browning, Director of the Bland-Sutton Institute of Pathology, had investigated the properties of these and of numberless other antiseptics, and had arrived at some remarkable conclusions.

The reason why our old favourites—carbolic acid, iodine, corrosive sublimate, etc.—proved inefficient was because they lost power by combining with materials in the blood. Some became partially inert, many were neutralised. Then, again, they killed phagocytes as quickly, or even quicker, than they destroyed disease germs, and if they did not destroy tissue they were irritant to it.

Our old favourite corrosive sublimate was found to kill *cocci* in strengths of 1 part to 1,000,000 in water. In blood serum its potency fell to 1 part to 10,000—100 times less—because of the combinations it formed with materials in the blood. It did not injure phagocytes until 1 part to 7,000 was reached, but it was a powerful poison for all tissues.

Carbolic acid acted as well in blood serum as it did in water, but though 1 part to 250 killed *cocci*, 1 part to 500 knocked out the warrior cells.

Iodine proved even worse. One part in 10,000 killed *cocci* in water, but in blood serum a strength of 1 part to 700 was necessary. Long before it stopped *cocci* it annihilated phagocytes, viz., at 1 part to 3,500.

Even the hypochlorite series did not fulfil the severe tests. They killed *cocci* at 1 part to 4,000 in water, but in blood serum their efficiency fell to 1—1,000, and they prevented warrior cell activity at 1—4,000. Yet they did good work. The paradox is possibly explainable by their power to destroy the toxines thrown out by the germs of blood poisons.

When, finally, Dr. C. H. Browning arrived at "Flavine," similar tests proved that a new and remarkable substance had been discovered.

In blood serum Flavine killed *cocci* at strengths of 1 part to 200,000, yet it did not interfere with the action of the white warrior cells until 1 part to 500 had been reached. In other words, it was 400 times more effective to destroy disease germs than it was to hurt the patient.

Under clinical test its claims were promptly substantiated; it was ~~s~~en found stimulating as well as non-irritant to tissues. The ideal antiseptic had arrived. —S. H. Smith.

(To be continued.)

WEATHER REPORT.

Westbourne, October, 1917.

Rainfall, 3.88 in.
Heaviest fall, .39 in. on 5th and 16th.
Rain fell on 23 days.
Below average, .38 in.
Sunshine, 109.5 hours.
Brightest day, 1st, 8.3 hours.
Sunless days, 3.
Below average, 4.5 hours.
Maximum temperature, 69 on 2nd.
Minimum temperature, 25 on 28th.
Minimum on grass, 15 on 28th.
Frosty nights, 7.
Mean maximum, 54.8.
Mean minimum, 38.3.
Mean temperature, 46.5.
Below average, 3.0.
Maximum barometer, 30.300 on 22nd.
Minimum barometer, 28.998 on 13th.

L. B. Birkett.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

STANDARDISATION OF HIVES.

[9567] In introducing the discussion on the Standardisation of Hives Mr. Harman has touched upon a very weak spot in our bee-keeping practice. It may be presumed that the attitude of approval expressed towards the question by this correspondence is indicative of the views of the majority of practical and experienced bee-keepers. This being the case, suitable action ought not to be delayed, otherwise an extremely favourable opportunity will be lost, for under present conditions the output of hives is restricted, stocks are low, and the necessity for concentration of effort in the production of hives is a feature which is becoming more and more pressing.

In other spheres of commercial enterprise standardisation is increasingly assuming an economic necessity, and applied to the construction of hives it would tend to lessen the cost of production and increase the output. The time is ripe for action, and if the Bee-keepers' Associations will take up this question seriously, within a few years the rank and file will realise its advantages, and in due course the large number of superfluous patterns now on the market will fall into disuse and be replaced by those of standard design.

By standardising several types of hive in the manner proposed by Mr. Harman, uniformity and interchangeability of each type could be obtained without in any way hindering future development, and improvement, of hive construction in general—a very important point—in fact the standard type hives would more nearly represent the different requirements and ideals of practical bee-keepers throughout the country than is at present the case.

The question is a very important one, and the decisions arrived at may have a large bearing on the future of British bee-keeping. The B.B.K.A. is, beyond doubt, the authority to handle this question, and I feel confident that they will not postpone taking action towards a definite settlement of this vital and urgent matter.

We in Kent are strongly in favour of the principle of standardisation of types, and at our Autumn Conference to be held at the Council Chamber, Dartford, on the 17th inst., an opportunity will be afforded to bee-keepers and others to ventilate their ideas during the discussion following a paper on this subject by Mr. Harman. The meeting will commence at 4 p.m., and a hearty welcome is extended to bee-keepers (members or otherwise) who are interested in this subject and in the advancement of British bee culture.—GEO. W. JUDGE, Hon. Sec. Kent B.K.A., Barrowdene, Shepherds Lane, Dartford.

[9568] I read with great interest the correspondence in the *B.B.J.* on the make of the standard frame hive, its advantages and disadvantages, etc. Now, when Mr. Kidd first introduced the subject in his "The British Bar Frame Hive and Commercial Bee-keeping," I expect his ideas ran in a different channel to standardising the above hive. I think he had ideas of introducing what is known as the divisible brood chamber hive, some of which found their way into Northumberland and Durham a few years ago when those two counties were united as one association. Perhaps Mr. Kidd will explain the advantages to be gained from using the hive mentioned, but as far as I can see they would not, I am afraid, influence many bee-keepers to adopt them. No doubt they are easy to pack when going to the moors, but every bee-keeper does not go seeking heather honey. I have seen a few hives in my seventeen years of bee-keeping, and also a few different types of hives, which the owners all claimed to possess certain advantages, either for standing always in one place, or going to the moors. Had the bar frame hive been standardised a number of years ago it certainly would have saved me a good deal of trouble, also a lot of bad temper, when manipulating the bees. I myself have a hive which I consider as good as any, but it is only one of fourteen, all different to each other, so much so, that it causes me just the same trouble owing to lack of uniformity. The hive I consider best is a modified W.B.C.; it is 18 in. square, two sides double walled, loose porch, easy to fasten when transporting to the moors, also plenty of room inside for packing material when sections are in position. When this great war is over, I intend to make all my hives one size outside, viz., 18 in. square, so that what fits one will fit all.

So much for the bar frame hive. Now for the bees and their *candy*. Mr. Editor, could you state how much per lb. Messrs. Pascall put the candy on the market for? A week or two ago a contributor to the *B.B.J.* complained about the price charged for candy. I wonder what he would think if he had been charged 7s. 6d. for 6 lb. of medicated bee food made by Pascall's, of London? I think there is a lot of profiteering among dealers in appliances for bees. Just fancy, candy made in London, sent to Scotland, returned to Newcastle, and then sold to bee-keepers for 1s. 3d. per lb. How many middlemen's profit has the bee-keeper to pay? And now, Mr. Editor, a final query. Is the Durham Bee-keepers' Association really dead, or are the bee-keepers indulging in a heavy sleep, to find themselves left when they awaken? I should like to see the Association once more in a flourishing condition, and should heartily assist anyone who can manage to get the bee-keepers together, to have a meeting if possible. I send my full name and address for publication, so that if anyone cares to take up the work he can rely on my assistance; but if no one, then if bee-keepers will write to me direct, perhaps we could arrange something. What say you, Mr. Editor?—HENRY HARMER, West View, Whickham Road, Sunnyside, Gateshead.

[Messrs. Pascall charge 4s. 2d. for a box containing five 1-lb. cakes of candy: the postage on this is 8d. A retail dealer cannot sell a single 1-lb. cake for less than 1s. to recoup himself for time, trouble, packing. If sent by post, the amount of the postage would be charged. We are sorry we cannot give you any information *re* the Durham B.K.A. We think there should be a real live Bee-keepers' Association in every county, to look after the interests of the craft, not only now, but after the war.—EDS.]

[9569] I quite agree with M. C. Harman, No. 9,555, BRITISH BEE JOURNAL, No. 1,843, October 18, 1917, and have enclosed a post card to that effect.

The idea of J. J. Liverton, No. 9,558, BRITISH BEE JOURNAL, 1,844, October 25, 1917, is a good one. If the manufacturers could be got to work on this principle it would cover the whole difficulty. I am working eight hives, and if the whole were mixed up together I could pick up the first pieces I came to and build up the eight hives again without any trouble, as they are all interchangeable. No need when one takes up a part to wonder if it will fit, because all parts are made to one measurement, both inside and out. The hives are of the W.B.C. pattern and made by myself.—W. A. WRIGHT.

IZAL AND "ISLE OF WIGHT" DISEASE.

[9570] I am a bee-keeper in this district, and I thought my experience with "Izal" would be of interest to you. Last April I bought a bottle of "Bacterol" as a disinfectant for the prevention of "Isle of Wight" disease in my three stocks of bees, as this disease had been rather prevalent in this district for some time past. I sprayed my bees about once or twice a week with it, they being quite healthy then. This was done just as a "preventive," but, notwithstanding all my precautions, they contracted "Isle of Wight" disease, for, on the evening of June 25, when I arrived home from business, my bees were out in front of the hives in their thousands, crawling about, and on examination of the interior of the hives the marks of excreta were plainly visible. I called in a local bee expert, and he diagnosed the case as a very bad attack of "Isle of Wight" disease, and advised me to destroy the lot, as he thought the case was hopeless. But I did not intend doing so without a struggle with the disease.

The same evening I set to work disinfecting with the above-mentioned disinfectant, spraying combs and burying all crawlers. I continued this treatment for about a week, but disease was still as prevalent as ever.

Then, as a last resource, I got a 1s. bottle of Izal and started spraying bees with it. I had each comb of bees out, and sprayed them with it. Almost immediately I noticed improvement. I continued with Izal for about two weeks, washed all floor-boards with it, and alighting boards, giving the disease no rest. The bees were then busy gathering in honey and breeding fast, no crawlers anywhere; so I came to the conclusion I had, with the aid of Izal, cured the disease.

A friend of mine also had an outbreak of the disease among his bees. Together we treated them the same, and in about fourteen days we had cured his also with Izal.

Since then I have not had the slightest sign of the disease reappearing, and I have had a splendid lot of honey from them.

If the foregoing experience of mine with Izal is of any use to you, you are at perfect liberty to use it in any way you please, as I am convinced Izal *cured* mine and also my friend's bees.—H. W. ROBINSON.

[We shall be pleased to hear from other readers their experience in the use of Izal.—EDS.]

Notices to Correspondents

NOVICE (Aberdeen).—*Utilising unsealed sections.*—You can extract the unsealed honey and use it for domestic purposes, but it will not keep long. The sections may then be saved for use next year. *Preserving sealed stores.*—Keep the combs in a dry, dark cupboard or other similar place. The temperature should be fairly warm, say about 60 deg. Fah., but the principal point to watch is that there is no great variation in the temperature, as the honey is not so likely to granulate in an equable temperature, even if somewhat cold, as it is when exposed to extremes of heat and cold.

DUCK (Bridlington).—*Wintering indoors or outside.*—Bees winter best outside as a rule, but they would probably be all right in an *open-fronted* summer house. A strong colony of bees with ample stores will stand a lot of cold, but they *must* be kept dry. If you move the hive into the summer house, replace on the old stand in good time in the spring. We advise you to let them stay where they are.

A. B. (Llandudno).—*Using old honey.*—The honey will be all right if it is sound, but we do not quite understand what you mean by it "turning a brown colour." Can you send a small sample?

"BEEDON" (March).—*Using honey from diseased bees.*—The honey, if clean, is quite wholesome for human consumption. It is only harmful to bees. We also advise you to extract the wax from the combs, as they are new, but burn the residue, also the frames and quilts, and disinfect the hives.

W. BACK (Oswestry).—*Moving bees.*— (1 and 2) You may move the bees to any other stand in the garden or orchard when they have been confined to the hive for, say, 10 days or more by cold weather, without losing any bees. (3) We do not know of any at present; watch our prepaid advertisement column, or put in a small advertisement stating your wants.

EXPERT (Co. DUBLIN).—*Leaflet F.C., No.* 31.—We do not know who was the compiler of Leaflet F.C., No. 31, on "Bee-keeping" ? ? ? issued by the Ministry of Food. The name of the British Bee-keepers' Association was inserted without the knowledge of, or sanction from, that body. A letter to us in reply to our criticism of it on July 11, 1917, from the Director of Food Economy—states that it was withdrawn in June, therefore the statement made in the cutting you have sent.—which you say appeared in a monthly leaflet dated August, 1917, the rule being for you to receive this leaflet at the end of the month following the one for which it is dated—is untrue. A leaflet withdrawn in June could not be affected by a criticism appearing in a leaflet dated August, available about the last week in September, over three months later. We should be sorry, as you suggest, to waste three columns of space out of a total of twelve—i.e., one-fourth of a single issue—in criticising such a monstrosity of ignorance. We are unable to use all the *useful* and *practical* articles sent by correspondents, therefore the necessity to pad with that kind of piffle does not arise. We made our protest by letter to the proper quarters, where it had the desired effect.

DEVONIAN (Devon) and NOSEY (Blackheath).—The bees will have stored the candy. As we do not know the amount of stores there are in the combs, we are unable to say how much candy will be required. Do not put any more on until about the end of the month.

Suspected Disease.

H. W. (Dorset). There is no disease. The bees you sent were, all but one, drones. You have been unfortunate in losing the queen. As a consequence, the colony dwindled, and was then robbed out. This took place the day the bees were so very energetic. They became excited, and searched every place for further plunder; those that entered the rooms were probably unable to find a way out again, and died from exhaustion. Your friend's description of the bees "having epileptic fits all over the drawing-room" was certainly original.

C. H. A. (Newmarket).—It is "Isle of Wight" disease.

J. HUGHES (Mold).—The bees appear to be Dutch, and suffering from "Isle of Wight" disease.

W. T. NEWTON (Cheshire).—"Isle of Wight" disease has caused the death of the bees. There is very little you can do for them at this season. Medicate any food given, and keep the hive supplied with disinfectant.

E. S. STEEDMAN (Bucks).—The trouble is "Isle of Wight" disease. As the colony is a small one, better destroy it. If the combs are stored with honey, extract it, and use for domestic purposes. See reply to "Beedon."

BEGINNER (Stockton).—Bees marked A. are Natives, and suffering from "Isle of Wight" disease. B. Native, with a little Italian, and appear to be healthy. The bees A. appear larger owing to the abdomen being distended—one of the symptoms of "Isle of Wight" disease.

AMATEUR (March).—The bees are affected with "Isle of Wight" disease. There is nothing in the comb but honey and pollen, but, of course, it will be infected with the disease.

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Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1*d. per word as* **"Business"** *Announcements,* immediately under the *Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3*s. per* ¼*in., or* 6*s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FOUR 28-lb. tins pure Cambridgeshire honey, 168s.; sample 4d.—W. JOCKMAN, Sidney Farm, Cherryhinton, Cambridge. l 34

FOR SALE, 7½cwt. prime Hampshire honey, 160s. per cwt., in 28-lb. tins, free on rail.—TRUEMAN, Harroway-road, Andover. m 6

WANTED, Simmins' "Modern Bee Farm" and "X.Y.Z. of Bee Culture." State price, condition, etc.—TOM BRIGHT, Elm Grove Road, Weybridge. m 7

WANTED, to purchase, or loan for month, second-hand copy Roots' "A.B.C. and X.Y.Z. Bee Culture."—LANCASHIRE BEE-KEEPER, BRITISH BEE JOURNAL Office, 23, Bedford-street, Strand, W.C.2. m 8

CYLINDER EXTRACTOR, in good condition, 30 by 17, extracts 2 bar frames at one time, used only once. Price 30s.—CASTLE, Cliftonville, Abingdon. m 9

A ROLL OF HONOUR.

Although bee-keeping is considered a minor pursuit, we venture to say that it has provided more fighting men than the usual average of any industry. To place on record the part the members of our craft have played in the present war we propose to make a "Roll of Honour," and shall be pleased if our readers will forward us the NAMES and ADDRESSES, together with the REGIMENT and RANK, of any bee-keeper serving his King and Country at home or abroad; also if killed or wounded.

We print a further list of names to those sent in, and shall be pleased to have other names as soon as possible.

Signaller Maurice Bonvonni, Treewn, Letterston, Pem.—23rd Batt., D. Co., Welsh Pioneers, Salonica.

Driver Reginald Bonvonni, Treewn, Letterston, Pem.—M.T. Co., A.S.C., B.E.F., France.

Pte. A. Adam, Garth House Cottages, Garth, Brecon.—5th Batt., Royal Berks. Regt., B.E.F., France.

Pte. A. E. Webb, 59, Denmark Road, Norwich.—11th Batt., Royal Fusiliers. Wounded and discharged.

A DORSET YARN.

When a young man I remember reading of two things to study—the study of words, and the study of things. The first I have never had time for (though I admit wearing off the covers of the first dictionary I bought, by carrying it in my pocket); the second was mixed up with my calling in life.

The Vegetable and Insect Kingdoms to the tiller of the soil have always been like an open book; every day, in early manhood, there was something fresh to learn of one kingdom or the other—what there was of bees in the gentleman's garden I worked, was a house painted white, taking three stages of straw skeps one above the other. Three long alighting boards were along the front, and hinged boards at the back, to get at the hives for supers; that was all that was ever done to them. Some of the supers were of straw, but mostly were of glass. There were acres of kitchen gardens, and many acres of pleasure grounds; the bees had a part all to themselves, enclosed by laurel hedges. There was room above each skep to super, only one was expected from each, and that was not always obtained, as they would swarm and go away when no one was working near them.

This was then thought to be an up-to-date bee-house. It was a fine place for bees; the grounds were planted with every flowering tree that would grow, from all parts of the world; huge hedges of holly and yew were planted to keep off the cold nor'-east winds. Many trees and shrubs, from warmer lands than ours, were able to go through the winters, and bloom each year; names would be only wearisome, but limes, chestnuts, and the false acacia were plentiful. It was here I first saw the arbutus, which fruited abundantly, fine large trees of it. Many of the fine trees were from the first seeds that were sent home by travellers after the world's finest treasures in the Vegetable Kingdom. Here were some of the trees from seeds sent home from China, Japan, and the wonderful trees of America: lakes of water lilies and other aquatics, with tench and carp in great numbers, water fowl from other lands, besides our own native ones.

It was here that I had my first lesson in water insects; there were so many of them in those lakes, I collected some for observation; the beetles were the most interesting to me, the large water beetle (*Dytiscus marginalis*) and the smaller members of Coleoptera that live in water. I soon found out it was impossible to keep them together, as they would soon eat each other, until there was only one female *marginalis* left. All the whirlwiggs, the water boatmen, and skaters, that I had collected, were eaten, and it was always the female that was left; she was bent on reproducing her species to carry on the race.

All around this beautiful Park was given over to foxes, and when the hounds came it was impossible for the head gardener to enforce discipline: he forbade us going so often (but we always went) till he at last got tired of coercion, and went himself. What was cover for foxes was once farms and cornfields; the fields were covered with aspens, oaks and birch—this was only twenty-two miles from London, on the Aldershot road; it would be interesting to notice what the Surrey County War Agricultural Committee are doing with such estates as this.

Many readers of our JOURNAL have written me for more information about some of the subjects that I have yarn'd about at different times (some of them must be giving our Editors more to do in re-ad-

dressing letters). If I have interested some, it is nice they should admit it, I often think I am stating what is so well known to most of the craft. Was it not Pope who wrote, "A little learning is a dangerous thing, Drink deep, or touch not the Pierian spring"? I am nearly sixty, but still learning, and I suppose we all shall as long as life lasts. I read in Emerson's Essays (before I was sixteen) "there is no such thing as standing still; so soon as you cease progression, retrogression begins." I know a little about bees, but am often somewhat afraid to teach, as I feel I have not "drunk deep," as Pope wrote, but I have listened to many bee-men, who were very clever—and also very dry, so I am content to yarn on bees and what I see of their habits.

I am to yarn on butterflies and moths at Parkstone next week, at a meeting of horticulturists. My first lesson on them was at the same place that I referred to at the commencement of this yarn. When working in the hot-houses, one was able to take the different pupæ, or chrysalides, of the many moths, etc., we found in winter into them. The heat very soon made them come out of their long sleep, and put on their lovely coloured wings. With no books to help one, it was slow work, until I was able to buy Kirby and Spence's "Guide to Entomology," and was able to take a good "drink" of knowledge then. I am still learning of what they feed on, which are most harmful, and which are in some respects beneficial, in that they feed on coarse weeds that are prejudicial to the tiller of the soil. My text was "the study of things."

Like most gassy wind-bags, one gets away from the point. Our last JOURNAL has given us something else to study in Mr. Lowe's modest, but most important contribution to the cure of the fell disease that has overtaken our bees. Mr. Smith, of Cambridge, is on the same track. I begin to wish I knew something of chemistry, as all these names are new to me (and I have swallowed a lot of names in my life). Am wanting the week to hurry on to get the next instalment of his article. I feel sure I am not the only one that is eager, and, like little Oliver Twist, "want more." It is the most hopeful panacea since that esteemed parson gave us Dioxogen as a life-saving one.

Since writing the above, other letters have come to me from enthusiastic bee-keepers; it will soon mean a secretary to cope with the correspondence, two or three pages of closely written matter; shows that the writers are keen about bees. I suppose, at my age, I shall not get that complaint called "swelled head." There are so many books of instruction for bee-keepers, and so cheap, one ought to be "a walking encyclopædia" if one "drank deep" of them all.

I had the cheap sixpenny book on "Modern Bee-keeping," and have learned what I know of manipulation by reading the BRITISH BEE JOURNAL. The old writers in the JOURNAL were fine men; the men of to-day ought to be very far in advance of those who wrote then; we have been able to "pick their brains" (to use a slang term) in their writings, besides the knowledge we have gained for ourselves.

One bee-keeper, who is also a small holder, and of the fair sex, wrote me about rooting apple trees. As she had not been successful with them she asked me to give how to do it in the JOURNAL, that others could see as well as herself.

The most suitable time to strike apple stocks is October to Christmas—pieces of two and three years' growth inserted in the soil and made very firm, short jointed pieces from old trees. Old Northern Greening will root with quite large pieces put in, but most of the quick rooting varieties will show small swellings in a circle round the pieces that are most likely to root quickly. I took an old orchard in 1905 that had been let run to ruin, with brambles grown up into the trees, and some branches of the trees that were on the soil had rooted, and had started up new trees among the brambles (it is a large green one, like Warner's King, only it keeps longer), and I saw it was one of Mother Nature's ways of reproduction. All the branches as they reached the ground showed these small swellings, where the roots would, and in some instances had started; these have since borne heavy crops of apples. Many of them I have budded with Beauty of Bath and Gladstone, for early picking, Lane's Albert, Newton Wonder, Peasgoods, and Cox's Orange Pippin, so as to have better varieties. Some of the villages of Dorset have so many of one variety; the reason is they root freely, and have been extended throughout the entire village. For instance, some have a great many Tom Put's, a large apple, rosy red, with a few light stripes. 80 per cent. of pieces that are two, three, and four years' old will root in the autumn; we have a lot of them, all from cuttings off one tree.

Another bee-keeper writes from Ayrshire that he has been fighting the "Isle of Wight" disease for six years. He must love his bees! But that is the sort to get on; it is the men that never give in that win. I am sure all our readers will wish him success as a fruit farmer, as well as a bee-keeper.—J. J. KETTLE.

THE BEE GARDEN.

ORNAMENTAL TREES.

The subject of ornamental trees is one that tempts me to stray far beyond the confines of even the most palatial garden.

Park and street planting comprises many varieties of trees grown for their appearance rather than for any economic value they may possess. The ruthless destruction for military purposes of much of the timber growth of the country will, however, turn the attention of estate stewards and factors to the problem of economic re-afforestation and the restoration of the arboreal beauty of the countryside.

In the various appreciations of the late Mr. E. D. Till, which have appeared in these and other columns, much prominence was given, and rightly so, to that gentleman's love of trees and to his pioneer advocacy of arboriculture.

It is unthinkable to me that a man who took such a comprehensive view of matters as he did should not have given consideration to the bee-keeping aspect of tree-planting, and had he been spared to us until the inauguration of the post-war reconstruction, we should doubtless have had valuable advice in this direction from the rich stores of his enthusiasm and experience.

Such was not to be, alas! and it is all the more incumbent on the rest of us to consider seriously any means whereby the interests of our craft in the matter may be advanced.

Large building schemes, under governmental and municipal auspices, are announced. Town-planning projects now comprise the laying out of squares, gardens, parks, and recreation grounds, as well as the planting of trees in the streets.

Pressure may surely be put on the authorities responsible for the carrying out of these schemes, to ensure that trees and shrubs of nectar-yielding varieties be employed. Many surveyors seem to have no originality in the matter of street planting.

The London plane lime (*tilia*), with occasional birch and acacia (*robinia pseuda*) seem to exhaust the list they draw upon. Of these, the lime and acacia are first-rate bee trees, but the value of the latter is greatly minimised by the method of pruning. Birch is, so far as I know, useless to bees, and the plane, although well suited to its environment, is under grave suspicion in relation to its effect on the public health and still graver as regards its enemy origin. My information is that platanus has to be imported as a sapling from Austria or Germany, and grown on here, as seed seldom germinates in this country. On one garden suburb's ways I have experimented with many varieties of trees from maidenhairs (*salisburia adiantifolia*) to scarlet oaks for this purpose, and one result has been to confirm the belief with which I started, i.e., that many hitherto untried trees will flourish and prove in every way suitable when carefully planted and secured in the streets of our residential towns and suburbs.

Horse chestnuts, cream and scarlet, could well be employed where pavements are fairly wide and the building line set far back. Pink and scarlet hawthorn (single) could be grown, without difficulty to a height and shape fitting them for street use. Prunus pissardi (purple plum) blooms very early, and, given fine weather, is crowded with bees just at a time when every little helps the most. This subject, with several allied species, could be grown to street planting size, if only the demand for such specimens were created.

The ideal to aim at in street planted trees is such a variety as would banish the present monotony and yield a successional flow of nectar. At present we have nothing to follow the lime (*T. europæ*) save another lime (*T. petiolaris*), and apropos of the latter I recall a recommendation to plant it that appeared in these columns some time since.

May I ask special attention to the following:—In the summer of —— I was staying at Hamsell Manor, Eridge, a show part of the beautiful county of Sussex. Quite near the house grew a very fine, tall specimen of *T. petiolaris*, which came into full bloom during my visit. The only hive bees in Eridge, so far as I could find, were a good distance away, and I saw none working in the tree, although, owing to its great height, there may have been many, invisible to me from the ground. Now, morning after morning, hundreds, even thousands, of bumble bees of various species lay dead or dying on the gravel beneath. "Isle of Wight" had just become a word of dread, and my first thought was that, perhaps, Bombus and his allies had been attacked by it and were perishing thus. Inquiries I made of the three bee-keepers in the neighbourhood, one of them the agent of the Marquess of Abergavenny, a progressive member of the

Sussex Bee-keepers' Association, another a cottager skeppist, the third a bee-keeper *tale quale*, showed that the disease had not yet made its appearance in the district, so that the solution was further to seek. Uncharitably, I formulated the opinion that gluttony might be the cause. The tree being so high the gorged bumbles were falling out of control, being unaccustomed to keep such altitude in a state of repletion. Well, I left it at that for the time. The gardener and his assistant swept up the corpses, orange, black and grey; my visit ended and I thought no more about the stricken bumbles until, in the Journal of the Royal Horticultural Society I came upon a note* (Vol. XLI., Part 1., p. 19), which gave me pause. 'Twas only a few words, but these from so authoritative a source as to compel attention. Merely an illustration in a lecture, yet here, perhaps, was the key to the mystery, and before further advocating the planting of the late flowering lime it should be put upon its trial before a specially empanelled grand jury on the charge that on divers occasions it has administered poisoned nectar to members of the most industrious and well-beloved order *apis mellifica*, and to others at the same banquets assembled.

There is another variety of lime (*T. Oliveri*, a native of China, which has a silvery underside of the leaf, like *T. tomentosa*. Do any of my readers know this one? If so, it would be of interest to be told its constitution and flowering habit, as so handsome a tree might be made use of in avenues, streets, recreation grounds, etc.

A tree to avoid is *Ailanthus glandulosa*, Tree of Heaven, well and unfavourably known in France as *Vernis du Japon*. A bee-keeper at Neuilly-upon-Seine, once lamented to me that some beautiful acacia honey, *le miel des dames*, had been quite spoilt by the admixture of some from *Ailanthus*. I might have remarked that it was a compatriot of his, M. le R. P. Incarville, whose name, with that of his colleague, is enshrined in the "hardy gloxinia," *Incarvillea Delavayi*, that introduced Ailanthus from China, where he was labouring as a missionary, and, incidentally, acting as a forerunner of, *inter alia*, Mr. Reginald Farrer as a botanical venturer.—A. F. Harwood.

* "Another instance was given in the case of *Tilia petiolaris*, regarded by Elwes and Henry as a variety of *T. tomentosa* (*T. alba*). Other botanists, however, believe that this tree is distinct as a species. Ordinary evidence to this effect is found in the greater length of petiole, *but it is supported by the fact that the flowers are poisonous to bees*, an indication of some essential difference, *though it may be admitted that, according to report, plants may vary in being toxic or not, e.g., Solanum Nigrum*" (italics in text mine).

LEICESTERSHIRE AND RUTLAND BEEKEEPERS' ASSOCIATION.

The autumn gathering of the above Association took place on October 27 at the Vaughan College, Leicester. The Rev. J. F. Anderson (Chairman of the Association) presided over a fair attendance, numbering upwards of forty members, including Councillor E. J. Underwood. Messrs. E. E. Lowe, A. E. Biggs, H. M. Riley, W. W. Falkner, H. Clark, L. H. Geary, W. Moss, J. Thompson, J. Hunt, A. Briars, W. G. Dunn, G. Mason, Dr. F. Lankester, T. H. Earp, W. K. Bedingfield, and several ladies.

The Chairman having extended a hearty welcome to all present, Mr. A. Briars (as Secretary of the Restocking Committee) reported that the restocking apiary which was started at Enderby with three stocks purchased from the Melton district in April last had done well, so far, and was up to the present time free from disease. Few nuclei had been sent out, nine stocks had gone into winter quarters, well supplied with stores, and thirty-six pounds of honey had been sold.

Mr. Biggs remarked that the season had been most unfavourable since the distribution of the nuclei, but the stocks were increasing, and were healthy, strong colonies. Personally he was exceedingly pleased and grateful to the committee to whom he moved a special vote of thanks for their self-sacrificing labours. This was heartily endorsed by other members and carried unanimously.

Mr. A. Briars replied on behalf of the other members of the Restocking Committee, viz., J. Hunt, G. W. Dunn, G. E. Mason, T. H. Geary, T. Bradley, remarking that they had all worked harmoniously together out of pure love for the craft, and for the benefit of unfortunate members who had lost their bees through disease. He was pleased their efforts had proved satisfactory to the members of the Association, and hoped for much better results next year.

The question of obtaining a stock of medicated candy for the benefit and convenience of members was discussed. Mr. E. J. Underwood very kindly offered the free use of his office at 23, Freeschool Lane, Leicester, as a central depôt, and it was decided to purchase a quantity from Messrs. Pascalls, London, for resale to members.

In the evening a lecture was given by Mr. W. Herrod-Hempsall, F.E.S., who took for his subject, "Foreign races of bees and their powers of resisting disease." In view of the widespread and disastrous effect of "Isle of Wight" disease and consequent depletion of stocks the lecture was listened to by a

keenly interested audience, who showed their appreciation of the clear and masterly manner in which the lecturer handled his subject by according him a hearty vote of thanks.

Mr. E. E. Lowe, B.Sc., F.L.S., Curator, Leicester Municipal Museum, then gave a very interesting account of his investigations: so far as he had been able to carry them out during the past season, as to the cause and a cure for "Isle of Wight" disease. This item proved most helpful, and encourages members whose bees had been victims of the scourge, and who look forward to the time when they may be able to again restock their apiaries with a fair prospect of success.

On behalf of those present and of bee-keepers generally the Chairman expressed their indebtedness to Mr. Lowe for his kindness in taking up a subject which is of such vital importance to the nation at the present time, and also to the Museum Libraries' Committee of the Leicester Corporation for providing every facility for the investigations.

A miniature honey competition was judged by Mr. Herrod-Hempsall.

Light Honey.—1st, J. J. Abell, Newbold Verdon; 2nd, A. Briars, Leicester; 3rd, H. King, Hinckley.

Dark Honey.—1st, A. Briars. Granulated Honey.—1st, J. A. Briars; 2nd, G. E. Mason, Countesthorpe.

J. Waterfield, Secretary.

HANTS AND ISLE OF WIGHT BEE-KEEPERS' ASSOCIATION.

Bournemouth and District Branch.

The first exhibition of the Hants and Isle of Wight Bee-Keepers' Association (Bournemouth and District Branch) was held at the Winter Gardens, Bournemouth, on October 30 and 31, in connection with the Bournemouth Horticultural Society, who kindly provided our stand.

Although the Association has only been started some two months, we lost no time in taking advantage of the show. Some very fine sections were exhibited, which were sold for 2s. 6d. each. A bell glass filled with honeycomb was greatly admired by the visitors. This also was sold for 21s.

Sections in different stages of completion were on view.

Some shallow frames of comb were also shown. A bar-frame hive fitted with frames proved very attractive, many questions being asked concerning the working of the hive. Its presence was the means of enrolling many new members.

A Bronze Medal was awarded the Association; so altogether the exhibition proved very successful.

It got to our ears that Mr. Kettle (the writer of "A Dorset Yarn") was about. We sent out scouts to find him, but failed to discover his whereabouts.

We should have been pleased to have made his acquaintance.

I expect he had already left for the Violet Farm.—H. J. Stride.

KENT BEE-KEEPERS' ASSOCIATION (WESTERN DIVISION).

Meeting of Members of the Eltham District.

The first meeting of the members of the above Association in the Eltham district took place on Saturday, November 3, 1917, at the residence of Mr. W. H. J. Prior, "Culham," Main Road, New Eltham.

Mr. A. Dewey, the president of the Association, took the chair, Mr. G. W. Judge, the hon. secretary of the Association, being present.

Mr. Dewey briefly explained that in 1916 the Crayford and Mid-Kent Bee-keepers' Associations amalgamated, and became the Kent Bee-keepers' Association. The County Association carries out its activities in three divisions—Eastern, Midland, and Western—each with a divisional secretary. These divisions are divided into districts, and the object of this meeting was to form a committee representing the members of the Eltham District.

A keen interest was evinced by the discussion which followed, and it was unanimously decided to form the committee. The following names were proposed and elected *en masse*:—Miss Brooks, Mrs. Banks, J. Bills, Esq., J.P., Mr. Clarkson, Mr. Chaffey, Mr. Duck, Mrs. Frampton, Mr. Houston, Mr. Martin, Mr. Shaw, Mr. Shelley and Dr. Jackson Wolfe.

Mr. Prior, who had carried on, *pro tem.*, the duties of hon. secretary for the District, was unanimously elected to that office.

It was decided to call the first committee meeting at "Culham" on Saturday, November 10, in order to elect a chairman and to go immediately into the question of lectures for the coming winter months. —W. H. J. Prior, Hon. District Sec.

CULLED FROM THE "SPECTATOR."

A very nice letter from a lady in India enlarging on the benefits, uses, of bees as sugar producers, with immunity from torpedo attack, also as industry for the wounded, with a plea, and suggestion for funds from Government to start them, etc., met with the following belated, although no doubt intended sympathetic rejoinder.

[We agree with our correspondent as to the comparative neglect of "honey-making," but we fear that the dread

tidings of the ravages of the "Isle of Wight" disease among British bees have not reached her on her distant frontier.—Ed., "Spectator."]

Now it appeared to me, the lady may vhae been more up-to-date in her information and opinions. We may have been glad of such sympathy a year or two ago, but we ought to challenge such opinions now, as they only show the general and lamentable ignorance of the needs of British bee-keepers and what they are doing. "Subscribers," please worry the man, as only by pen-war can we get our desires known, or promote interest in the game, and secure recruits for the "fight."—A. H. Hamshar.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

STANDARDISATION OF HIVES.

[9571] I have been much interested in the pros and cons of this idea that have been running in The British Bee Journal, and it seems to me to point to one main conclusion, viz., that although almost all your correspondents are in favour of standardisation, nearly every one holds a different view as to the type of hive, etc., that should be standardised.

Therefore, it appears to me that there is only one way to fix this, viz., by forming a strong committee of up-to-date and energetic bee-keepers, such as Mr. Judge and Mr. Harman, and, say, four more well-known men, and giving them a free hand to fix the hives they consider most suitable, so that the ordinary bee-keeper, like myself, with little time to fully pursue their hobby, may be content to follow where these men lead.—Stanley A. Blenkarn.

EXPERIENCES WITH "ISLE OF WIGHT" DISEASE.

[9572] I have been thinking for some time that my experience with "Isle of Wight" disease might interest some of your readers. During the winter of 1915 I lost nine stocks (all I had). They had all been put up in capital condition, and after clearing the combs of the dead bees there were, of course, a great many combs of sealed honey. In April, 1916, I bought a small stock in a beehive, and in May transferred them to one of the hives with sealed stores, after spraying the hive, bottom board, and combs with diluted carbolic acid. I did the same to all the other hives, etc., that the bees died in, and I increased to six stocks, using imported Italian queens. I went into winter with these six, came out in spring with four, losing two. This year I have increased to seven, using Italian queens as before, have taken 2 cwt. of honey, and the seven are in good winter condition. All the honey in the diseased hives has been used up, and I have seen no sign of the disease. Of course, it may re-appear, but it was well worth the experiment, instead of destroying combs and hives. I may say that, in spite of my experience, I agree with those who object to legislation, and would rather take the chances. I am a bee-keeper of 50 years' experience come next June.—Alfred J. Clarke, 19, Albert Street, St. Ebbe, Oxford.

PRODUCTIVITY OF OUR LAND.

[9573] As a diligent and very appreciative reader of the charming letters in your journal by Mr. Kettle, I was pulled up in sudden surprise by his statement in the issue of November 8, 1917, that "our land . . . produces more bushels of corn to the acre," etc.

All this I too had "verily believed" until the startling report Cd. 8,305, price 4d., made by Mr. T. H. Middleton, C.B., for, and published by our own Board of Agriculture and Fisheries. The title is "The Recent Development of German Agriculture," and it has undoubtedly had much, and will, I fancy, in the future have more and more influence upon our agriculture in these islands.

Your journal is mainly concerned with bees, so while one is tempted to make large quotations, I will only make two, and those in comment upon Mr. Kettle's notes.

P. 6.—On each 100 acres of cultivated land:—

(1) The British farmer feeds from 45 to 50 persons, the German farmer feeds from 70 to 75 persons.

(2) On each 100 acres, etc.:—The British farmer grows 15 tons of corn, and the German farmer grows 33 tons!

There is much in the pamphlet on agricultural organisation, tariffs, fertilisation, etc., etc., but to refer to these might even bring down the gentle vegetarian cudgel of Mr. Kettle upon us. He, he tells us, is a Socialist, and I am a sociabilist, but

we shall each have new problems to face after the war. Meantime be it bees and honey.—R. WALTER ESSEX.

SUGAR FOR BEES.

[9574] All bee-keepers who have to resort to sugar feeding must be righteously indignant at the Government decision to continue the supply only in the form of candy at an exorbitant charge.

It seems somewhat inconsistent to spend money unnecessarily in converting sugar into candy, and later on, to supply sugar direct to fruit growers at a reasonable charge. As the latter are dependent to a very great extent on neighbouring bee-keepers for the fertilisation of their fruit trees, the respective charges should, if anything, have been reversed, or at least equalised.

The scarcity of sugar in the country provides the chief reason why bee-food should be supplied in liberal quantities at a reasonable charge, our insect friends being "gatherers of sugar," as well as "fruit crop increasers." Officialdom ought to realise that beginners who have paid ransom prices for hives, appliances, and bees this season, have, owing to adverse weather conditions, been compelled to feed large quantities of bee candy, at a cost considerably higher than the average man can afford in these lean days.

The Government shout for economy in food, money, and man-power, and then make the following arrangement regarding the supply of bee food:—50 tons of sugar at, say, 7d. per lb. Price charged fruit growers, £3,267—100 per cent.; avoidable wastage in man-power, and money, converting above into candy, sold at 10d. per lb., £1,400—43 per cent.; avoidable wastage of man-power and postage, £747—23 per cent.; total, £5,414—166 per cent.

In other words, fruit growers who do not keep bees would have obtained the 50 tons of sugar direct, at a cost of £3,267, while those who spend time and much money in the attempt to keep healthy bees which will increase the fruit crops of their neighbours, are charged an additional £2,147, a tax of 66 per cent. on public benefactors.

The latter amount represents 2,770 War Savings Certificates which British bee-keepers ought to have, but have not.

It might also be asked why it was considered necessary to treat the candy in such a way that it could not be used by individuals, when thousands of tons were distributed broadcast to fruit growers (and non-fruit growers, too, judging from county court news).

Bee-keepers should rise up in a body and demand an apology, for is there a bee-man who would use any part of this supply for an unlawful purpose? The answer is in the negative.

I know that my bees would get the last spoonful even though my best girl was going around with her tongue hanging out for want of a cup of tea.

I am the pioneer in bee-keeping in this village, having started a few months ago with stock perfectly healthy and strong, and what is the result?

Breeding ceases through lack of stimulative food, which Pascall's cannot send for fifteen days after receipt of order.

Starving bees enter a diseased hive, or the dirty, deserted ones that are allowed to be about in neighbouring villages, and "Isle of Wight" disease is contracted within four or five weeks.

So our village possesses a weak cluster of diseased bees, and not a few prospective bee-men who have cancelled orders for bees and appliances.

How much the Board of Agriculture is responsible I leave others to judge.—J. B., Dumbartonshire.

[9575] The difficulty of obtaining sugar for bees is mainly caused by persons misrepresenting their peculiarities. The average person, and a few beekeepers, take the attitude in thinking that bees always get all the honey required for themselves and a large surplus to spare. They also never take into account local conditions, or strength of stocks. What is a good place one year is very often the reverse the next. For instance, a field that is clover one year is cropped with an altogether different crop the next. A few unseasonable days also make a deal of difference. Some have the impression, too, that bees fly miles and miles and get stores from anything that is a flower.

If they lose their bees, as they sometimes do, the reason generally given is their bees have gone away, and they say it is usual for them to do that at times with no apparent cause. Those who leave them to chance, and are fortunate in having stores in plenty think they are wonderfully patriotic in being non-dependent on sugar. The powers that be think that what one can do all bee-men ought to do, hence the scandal of the sugar supply. Another comes along and says, "Destroy the bees: they are not worth keeping if you cannot winter them without feeding."

Such persons having a mania for destruction naturally have a narrow and vague outlook, and cannot construct our bee industry if they tried.

Some say that honey being the natural food for bees, it is one reason they should winter on the same. I, and many others, have found in practice this is not always safe, although it saves time and money (?) I venture to say that in feeding bees with

a *correct medicated* syrup or candy, winter losses would be nil, at the same time making the bees and stocks vigorous and strong, with plenty of young bees for the winter. Our friends the bees rightly deserve attention that is required. There are few living things, whether plant or animal life, that do not benefit with a helping hand from man at the right time. When the honey season is over early, as in some districts, feeding keeps the bees from dwindling through the Queens ceasing to lay too early. As a preventive of disease and to increase stocks I claim it is far better, and shows more true patriotism than leaving bees to chance, and is a safe investment as well. For winter packing, a canvas bag stuffed with straw and made like a cushion is handy and convenient, allowing slow ventilation and maintaining interior warmth without sweating; it also keeps an even temperature whatever weather outside.—A. TROWSE, 51, Eade Road, Norwich.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

T. P. (Basingstoke).—*Transferring to frame hive.*—The opening in the quilt of 5 inches diameter was not large enough. It would have been better to have put the box on the frames without any quilt between them, covering the portions of top bars exposed outside the box with strips of calico, ticking, American cloth, or wood. Take away the quilt, remove all combs that are outside the box, and close up with the division board. Make all round bottom of box bee-proof, as suggested above, and let them remain as they are until next spring, when there is no doubt the queen will go down. When she is established and laying there put an excluder between the box and the hive, making certain the queen is below. In three weeks' time clear the bees from the box and remove it.

R. L. ROBERTS (Portmadoc).—*Feeding bees hived in a wooden bucket.*—In cold weather the bees would be unable to come down to candy placed on the floor board. You will have to make a hole 3 or 4 inches in diameter in the bottom of the bucket. Mark out the hole, round or square, with pencil, and with a brace and a 3-inch centre or twist bit bore a number of holes round the line, so that they break into each other, being careful not to put on too much weight as the bit goes through the wood. Lift away the bit of wood and place the candy over the hole. If you have, or can borrow, an "expanding" bit you could bore a 3-inch hole at one operation.

CARDIM (Wales).—If the hives had not been thoroughly disinfected the disease would probably have shown itself ere now.

J. W. B. K. (Kent).—In late autumn the bees will be able to liquefy and store the candy in the combs. They may carry water into the hive to dissolve it, or the moisture in the hive will enable them to do so. In cold weather they consume the candy as required.

BEGINNER (Stockton).—(*a*) No; give them a chance. (*b*) She might not.

EXPERT (Co. Dublin).—We wish you would cease to worry us about your national leaflet on bee-keeping. It takes us all our time to manage our own affairs. Follow our example, refrain from wasting time reading the penny dreadfuls of bee-keeping, and you will be free from worry. You are annoyed because a copying press has been advertised continually since January, 1917. You pay your pennies for reading matter, and take your chance. Well, it fills space, and "dresses the window" of that particular portion of the leaflet. Times are bad for newspaper proprietors, they turn an honest penny where they can—getting rid of useless articles is one method. For aught we know this may have been advertised ever since it lost its occupation—*vide* letter in BRITISH BEE JOURNAL, November 10, 1904; page 441. Scrapping articles that do naughty things is difficult, as the presence of owners desiring them for this kind of work is very small. Verily, its use at that time was to squeeze honey. Let us hope when it finds a new owner the latter suggested application may be to combs only.

We have now dealt with two of your grumbles, reluctantly devoting space that could have been better occupied. Therefore, will you address future ones to the parties interested, when you will no doubt get better satisfaction, and probably notoriety (?), by a voluminous editorial to fill up space at this dead time of year?

Special Prepaid Advertisements.

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1*d. per word as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3*s. per* ¼*in., or* 5*s. per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock** *to dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FOR SALE, fine extracted Welsh Honey, 250 lbs. in screw-top bottles, all labelled, 1s. 9d. lb.; also in bulk, 134 lbs., 1s. 6d. lb.—THOS. JAMES, Adpar, Newcastle Emlyn. M.10.

1 CWT. pure light Cambridge Honey, 196s., tins returnable. Sample 4d.—J. YOUNGER, 6, Maid's Causeway, Cambridge. M.11.

UNDER modern treatment 90 per cent. of the wounded who survive six hours recover, 95 per cent. of those who reach the field hospitals get well, and 93 per cent. of those who reach the base hospital. Not 5 per cent. of the wounded are permanently crippled. How do these figures compare with the casualties in your apiary? Get into line, and use modern methods. Last call to the D.B.'s—the lists close November 28. Don't forget to enclose a stamped, addressed envelope. There is no public fund back of this effort.—S. H. SMITH, 30, Maid's Causeway, Cambridge. M.13.

AWARDS FOR GALLANTRY WON BY BEE-KEEPERS.

Our readers will be interested to know that a son of Mr. and Mrs. F. W. Moore, Goathland Tower Road, Bournemouth, has been awarded the Victoria Cross. Mr. F. W. Moore has been a bee-keeper about twenty years, and is both a reader and corespondent of the *B.B.J.*, and we are sure all bee-keepers will join with us in heartily congratulating him on the honour gained by his son.

Second Lieut. Moore is in his 22nd year. In May, 1916, he passed into the Royal Military College, Sandhurst. He was gazetted to the Hampshire Regiment, and in September of last year he went to the Western front. In June last he was wounded in the leg, and for two months was in hospital. Recovering from this wound, he returned to the front, and had been fighting for only about a fortnight when the engagement occurred in which he acquitted himself so honourably, and for which he has been awarded the "blue ribbon" of the military profession.

Lieut. Moore displayed most conspicuous bravery in a fresh attack on a final objective which had not been captured. The following are the official details:—

"Second Lieut. Moore at once volunteered for this duty, and dashed forward at the head of some 70 men. They were met with heavy machine-gun fire from a flank which caused severe casualties, with the result that he arrived at his objective some 500 yards on with only a sergeant and four men. Nothing daunted, he at once bombed a large dug-out and took 28 prisoners, two machine-guns, and a light field gun.

"Gradually more officers and men arrived to the number of about 60. His position was entirely isolated, as the troops on the right had not advanced, but he dug a trench and repelled bombing attacks throughout the night. The next morning he was forced to retire a short distance. When opportunity offered he at once re-occupied his position, rearmed his men with enemy rifles and bombs, most of theirs being smashed, and beat off more than one counter-attack.

"Second Lieut. Moore held this post under continual shell fire for 36 hours, until his force was reduced to 10 men, out of 6 officers and 130 men who had started the operation. He eventually got away his wounded, and withdrew under cover of a thick mist.

"As an example of dashing gallantry and cool determination this young officer's exploit would be difficult to surpass."'

Sergt. H. Jenkinson, H.A.C., of 14, Arngask Road, Catford, has been awarded the D.C.M. for taking the place of his officers, who had been killed, after he himself had been slightly wounded. He joined the H.A.C. in November, 1915, and went to France, October, 1916, gaining rapid promotion. He has the honour of being the first in his battalion to win this decoration.

Sergt. Jenkinson is an enthusiastic bee-keeper, and those who know his fearlessness and confidence in handling bees, even when they are not in the best of tempers, are not surprised to hear of his coolness and daring on the battlefield. He is fortunate in having a sister who is able to look after the bees during his absence with the Army.

BRITISH BEEKEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 23, Bedford Street, Strand, London, W.C.2, on November 15, 1917.

Mr. W. F. Reid presided, and there were also present Miss M. D. Sillar, Sir Ernest Spencer, Messrs. W. H. Simms, G. W. Judge, G. Bryden, G. S. Faunch, J. Smallwood, A. Richards, G. R. Alder, J. B. Lamb, J. Herrod-Hempsall, Association representative, Rev. T. E. Peters (Bucks), and the Secretary, W. Herrod-Hempsall.

Letters of regret at inability to attend were read from Messrs. C. L. M. Eales, A. G. Pugh, T. Bevan, and G. J. Flashman.

The Minutes of Council meeting held October 18, 1917, and special Council meeting, held November 6, 1917, were read and confirmed.

The following new members were elected:—Misses K. Kendall, F. V. Heron, H. Brett, Rev. W. H. Richardson, Messrs. J. P. Harle, E. L. B. James, J. A. Lawson, J. Bloom, G. Freer, and E. E. Lowe.

The report of the Finance Committee was presented by Mr. Smallwood, who stated that payments into the bank for October were £27 14s. 9d. The bank balance on November 1 was £122 5s. 10d. Payments amounting to 14s. 6d. were sanctioned.

Arrangements for the Insurance Scheme as usual were sanctioned.

After discussion on the need for the standardisation of hives, it was resolved that a small committee be appointed to consider the question, and report to the Council.

A DORSET YARN.

In looking round the hives, it is well to see the bees round the entrance, though they do not fly off in a hurry, as they would if flowers were prolific. But still, one knows that they are sound so far—that is the main thing to me. Some of my neighbours tell me they are afraid the stores of honey are short. I "lifted" several of my hives in October—they seemed heavy enough; still, "you never can tell."

I saw a very pleasing sight in Bournemouth one sunny day last week, when driving through one of the roads in the valley; that was a fine large Aralia Sieboldii in full bloom. It was large—five or six feet over—and covered with flowers all standing up above the handsome foliage. The insects round it were in crowds. It was in private grounds, so could not see if they were bees; but I assume they were by the numbers. I must look through the public gardens, and see if they are in bloom there, when next I am in (while the horse is resting). These plants survive our winters where there is shelter from the nor'-easters; what is against all tender vegetation is wind, when the leaves are frozen. Extreme cold makes their leaf stalks hang down; winds twist them about, and then they never rise up in their natural form again; but it would be a great boon to our bees if we could have some of these to bloom at the end of the year. It is some time since I read of these trees and bees—I think it was in the JOURNAL—either from the Antipodes or California; anyway, I shall risk some at the Violet Farm next spring; then they will have the whole summer to grow.

There are still a great many letters reaching the Violet Farm; most of them appreciative, some are for still more knowledge of the subjects in the yarns, some do not agree with all that is in them, but they tell me so in such a nice way it is impossible to take offence. The particularly nice phrasing of their objection takes out the sting of opposition; some are in part with me. I begin to think that I am doing, as old Carlyle wrote, or at least am trying, "To make some nook of creation a little fruitfuller, better, to make some human hearts a little wiser, manfuller, happier, more blessed."

That is what we should all do in the short time we have on God's beautiful earth. Bees interest me; what they feed on, and plenty of it, is also a source of observation to me. If all bee-men did as Mr. Harwood has with the rose family, and send it on to our esteemed Editors, they will find room for it some time or other. If crowded, my yarn could wait for another time (I have had a fair share of the limelight). Some of the letters to me are most beautifully written, the phrasing is most pleasing, and the wealth of adjectives is wonderful. Messrs. Editors, you have among your readers many with much talent, if they would send it to you instead of to me.

If bees are to be spread all over this country again, it will have to be through the paper that deals with bees. Make the paper more readable, more interesting, then it will have a larger circulation, as more will have bees, and their interests will be more with the paper that tells them of their habits and their marvellous production of honey.

If the County Associations would co-operate, and extend their boundaries to reach isolated places where a few are plodding along in a simple way, but who do not read the JOURNAL; at least, I asked several at Wareham Market who brought in honey if they took the JOURNAL, and they said "No." I see there is honey each week on sale—some sections, but mostly run, some in screw-tops, but mostly in jam bottles, cottagers using what they had at hand. But I expect some of it was taken after the bees were suffocated. One wishes more and more that we had an association for Dorset; one feels it would be for the advancement of bee-craft generally.

I have always belonged to horticultural societies for local mutual improvement, and have taken great pleasure in going to their meetings. I yarn for many of them that I can get at without great loss of time; sometimes I have had to sleep away, as trains did not run at suitable times. That is what we shall have to do to boom bees along, a few enthusiasts working together (just as we Socialists have always had to do to spread the ethics of what we thought best for the advancement of the human race).

One wants a lantern and a few good slides. I have always read one can teach with the eye more easily than orally. I have read that there is a film giving the life and habits of bees; I should like to see it. I suppose all these luxuries must be put off till after the war.

Has the *B.B.J.* a lantern and slides? Our parson has a fine lantern, but it is the slides! Our Editors could tell us where to get them. Propaganda work on bees could be more easily done during winter by us who till the soil than in summer. [We have neither lantern nor slides, but the British Bee-keepers' Association have two sets of slides to let out on hire, the charge to members being 2s. 6d., non-members, 5s.—EDS.] If I could help any small village not too far from home, I would give a two-hour yarn in order to help to boom the craft.

Mr. Lowe's notes on the Flavines were all too short, but Mr. Smith has given us something to read, and something that

will want a deal of digesting. These learned chemists use chemical terms, and names that are foreign to the tiller of the soil; still, it reads sound. If it will save the bees, never mind the names; it is the bees we want. I do not seem too old to try and learn something of chemistry. We are learning every day the simple things; the hard ones can be mastered if we try. I once was one of three gardeners who were termed "the three wise men." One made a study of the stars, and one had a fine microscope, where everything could be shown so plainly; a spot of one's own blood was—or seemed—composed of many materials; and, reading Mr. Smith's contribution, one's memory goes back to the happy associations of young manhood. The parts of the bees under the glass were wonderful, but the wings of butterflies were gorgeous; it is a fine thing in life to have something in nature to always watch carefully. One soon sees all the wonderful works of God; things are beautiful to the naked eye, but under the glass even more so.

He was a wonderfully gifted man, but he was a poor speaker; he had a great horror of the limelight. I, who had not half his knowledge, had to do the yarning for him; he was somewhat deaf, and he did not always hear when I made mistakes. Those were happy days; we all had interests in common; he who talked of the stars was far above we others in these matters, but we each knew that God was in Heaven beyond them all. He gave us the talents to use for our good, and by using them to the fullest the more happiness we got out of life, and, in the entertainments we gave, others had a share.

Our richest man in our village, with no children of his own, gets the greatest pleasure he has in giving treats and presents to the school children, in giving coal and food to the aged poor, in buying houses that the old people should not be turned out of their homes. He even offered to buy one of my holdings so that I should not be turned out when the estate was sold. He is following out Carlyle's words that I referred to in the early part of this yarn; and God will reward him when he comes into His kingdom.

If all bee-men who love the craft would write more and speak more, the world would be the wiser. Since I have yarned in the JOURNAL I have made many friends. I try my best to answer all their queries. Ruskin says, "A man may hide himself from you in every other way, but he cannot in his work." It's not what you say, but by what you do, that your actions are judged.

Do not hesitate Messrs. Editors, to cut out any part of yarns you think would give offence to your readers, or what you think is not to the point. I shall not feel hurt about it. I should like to write of many things that go hand-in-hand with bee-keeping, particularly with the tillers of the soil.

Just now is the time to get in the early broad beans; the best one is Early Seville long-pod; if the winter is at all favourable, these will be in bloom three weeks earlier than those sown in spring. That will be a great gain to the bees, as these give such a load of bloom; they will be very dear this year, as it was a poor year to harvest them. My traveller for horticultural seeds quoted them at 45s. and 50s. per bushel, wholesale prices, and early peas at 75s. Most prohibitive prices. I had no peas, so had to give an order for some; but I had saved plenty of beans—many bushels.

I have a fine green long-pod that is very productive, and gives a lot of early blossom when planted in November; these always sell at good prices, if got in now. I have known them at 15s. per bushel: it does not take a great lot to fill a bushel, nor nearly so long as do peas; but, what is best, the thousands of flowers for the bees to run riot over, to sip the sweets and carry home to their rapidly-increasing colonies.

The land for early beans and peas need not be made too rich with organic manures; that which had grown potatoes or mangolds ploughed over, and the seeds could be dibbled in the plough-marks at six inches apart, every second or third furrow. If the ground had been dug over with a fork for potatoes, it is as well to plough the beans in as you go on. Set the plough down about 3 in. deep, and drop the beans in close to the last furrow that was turned: plough over another on top of the beans, and then do one without sowing. If the plough is set to take 10 in. each time the rows will be 20 in. apart. We set the plough to take 8 in. and sow every third furrow; it gives us better play for a pony hoe to be drawn through the lines. If you plant after potatoes without a plough for small lots, run down a line every 18 in., and dibble in the seeds 2 or 3 in. deep.

We have a good many in already, and shall still plant more, as I feel sure that the high prices of peas will stay many from buying them, and beans will be wanted largely. The Minister for Agriculture seems to think that the lean years are to come. The green long-pod bean referred to is hardy and very productive. Get them in soon, but do not do it if the land is very wet after a night's rain; wait till the surface is dry; when using a plough it is all right, as the plough leaves the surface light.—J. J. KETTLE.

THE BEE GARDEN.

IN SHADES OF BLUE.

In his "yarn" of October 4, Mr. Kettle raised an exceedingly interesting question which was taken up by a correspondent, W. A. K., Surrey (9557), in the issue of the 18th, and dealt with in an ably written article in the following number, by Mr. Pescott.

To anyone acquainted with Mr. Pescott's work, the conclusions arrived at from experiments conducted by him cannot fail to have weight, and the appearance of this, his latest contribution to our knowledge, reminds me of an essay of my own in the same direction.

Opposite the morning-room window at Heathrow I planted a border, running north and south, composed entirely of plants flowering in shades of blue. The situation was not ideal, sunlight only falling full on the whole border for a few hours in the day, as it was cut off in the afternoon by the house, and largely intercepted in the morning by two large apple trees and a row of red currant bushes between them.

The occupants of the border were either (*a*) permanent, or (*b*) changed annually. The scheme was, as nearly as I can remember, as follows:—

The back row, *echinops*, not *ritro*, but the taller growing variety known as Chapman's Honey plant (*Esphærokephalos*). In front of this, spaced diagonally, delphiniums, ranging from deep metallic purple to cambridge blue. Next came Alkanet (*anchusa*, *Dropmore var.*), and in front of this again, but at longer intervals, Jacob's Ladder (*polemonium*). In line with these from the front were Chimney Campanulas (*c. pyramidalis*) in sunken pots, forming the advanced horns of a series of crescent-shaped bays, designed to soften the hard outlines of the otherwise continuous straight rows. Of these bays there were six, which, in 1914, my last year, were planted thus:—

No. 1, the farthest north, a clump of Balm (*melissa officinalis*), in the centre, surrounded by Bluebells (*scilla mutans*); No. 2, Borage (*borago officinalis*); No. 3, Canterbury Bells; No. 4, Cornflowers; No. 5, Phacelia tanscetifolia; No. 6, Salvia patens.

Extending along the edge of the path were clumps of violets, while under a Moss Rose bush, that terminated the border on the south, nestled a clump of Hepatica.

The occupants of five of these bays, Nos. 2 to 6, were changed every year, the arrangement never quite satisfying me either as regarded colour scheme, suitabilty of site to subject, or value to the bees.

Although much time was spent, on various dates, observing the frequency or infrequency of the visits paid by bees to the respective subjects, my unavoidable absence during five days in each week lessens the value of any conclusions formed, since *continuous* observation might have modified them.

For what they may be worth I transcribe my notes:—

Anchusa, very freely visted.

Balm, occasionally.

Bluebells, no visit noted.

Borage, almost continuously, freely between showers.

Chimney Campanula, frequently, but not so often as—

Canterbury Bells, great favourites, whether calycanthemate or no.

Cornflowers, frequently.

Delphiniums, no visit of hive bees noted.

Echinops, in favourable weather, very freely indeed.

Phacelia, also a great favourite.

Polemonium, frequently.

Salvia patens, never saw a hive bee even attempt to enter this flower; was somewhat surprised to find a sage so entirely neglected.

Additional notes on certain subjects are to the effect that Echinops, planted in another border, more favourably situated, was taller, had finer heads of bloom, and these were, literally, almost covered with bees at times when the weather conditions were most suitable. Balm, a larger clump in the herb garden, was more often visited than the one in the border under review.

Anchusa, Borage and Phacelia occasionally threw pink flowers. These were visited quite impartially with the normally coloured blue ones.

In previous years I had used Veronicas (*v. spicata* and *repens*), Heliotrope, Scabious, sweet, annual and *caucasica*, perennial, Catmint (*nepeta mussini*), Viola Maggie Mott, Lobelia E— W— Ssh!!! various Campanulas (*c. carpatica*, *c. persicifolia*, etc.), with a variety of other subjects, notably Nigella, Miss Jekyll, but have no written notes of these extant.

The general conclusions I arrived at over the whole series was—and remains—that colour *per se* is a matter of complete indifference to the bee. The presence and accesibility of nectar, and/or pollen is the sole attraction. Fragrance, too, even the flavour of the nectar yielded, seems to count for little or nothing with them. Would they, otherwise, haunt ragwort, privet, and other nauseous-smelling plants? It may be that, unconsciously, we have credited the bee with an

æsthetic perception of which it is, in reality, entirely devoid. Conscious ourselves of the effect upon our own nerves of various shades and combinations of colour, we have quite erroneously attributed to the bee the same or a similar sensibility.

Methinks that it would avail nothing to call in Mr. Kemp Prossor to suggest soothing brood-box colour schemes for improving the temper of cross stocks or restfully toned ekes for buffeted and fatigued field workers.—A. F. HARWOOD.

THE ARTIFICIAL HEATING OF HIVES.

A clear, though brief, statement on the subject of artificial heating of hives would seem desirable in order to prevent any misuse of my already published suggestions in the JOURNAL.

(1) *Indications.*—(*a*) While it is usually unnecessary in tropical and subtropical countries, artificial heating of hives during the cold weather, is, in my opinion, very desirable in cold countries, for the obvious reason of safeguarding the bees from the fatal effects of a severe cold; and (*b*) apart from the direct harmful effect of such an excessive low temperature, the maintenance of a *gentle* heat during the autumn would prolong the laying period of the queen, and, consequently, would be responsible for increasing the population of the hive, which is a very important factor in successful wintering. (*c*) Again the prevention of a dormant state during the winter, without at the same time creating an undue activity, would tend to increase or at least to maintain the natural resistance of the bees to infection at a time when they are most prone to contract it. (*d*) The occasional sad experience of a rich and a healthy stock dying from starvation simply because of its excessive dormancy during the winter, would also be prevented.

In short, I would venture to say that a warm temperature is *always* necessary for the existence of a healthy colony of bees; that these insects do their best, though not always successfully, by clustering to protect themselves against the ill effects of a low atmospheric temperature, and that the reasonable course to adopt for their prosperity is to keep them always in a dry home artificially warm during the cold seasons. Therefore, generally speaking, a low temperature embodies, as an indication, practically everything that would call for the artificial warming of hives.

(2) *Methods.*—Hives could be warmed either directly or indirectly. (*a*) By *direct* heating is meant the creation of heat inside the hive itself, and this could be accomplished in various ways. The use of a hot water bottle over the quilts to be covered with a blanket is the cheapest, though, naturally, the most unscientific and most uncontrollable way of warming. With hives fitted with a non-swarming chamber below the brood nest, a small, shaded carbon lamp, connected by outdoor electric wire with a heating plug-point close by, and placed in the non-swarming chamber, would be an admirable source of artificial heat, which, to a certain extent, is controllable, and in any case, with its use the bees need not at all be disturbed. It has also the advantage of creating a better ventilation through the continuously rising warm current of air. The best method of direct heating, however, would seem to be one based on the principle of electric incubators. With such a method complete regulation of the temperature could always be secured, and a temperature of not less than 20 degrees C. be maintained in an air jacket surrounding the hive, when the outside temperature might happen to be at zero or even below the freezing point. The construction of such a hive in normal times is by no means a difficulty, and there is but a little demand on one's imagination in drawing a sketch of a design. The only disadvantage is its high price and the cost of maintenance, and this is by no means a small disadvantage, for most, if not for all, bee-keepers, though with the possible existence in the future of rich companies interested in bee-keeping on up-to-date scientific lines, the creation of such a hive and its popularity would not then be impossible. The high price paid is, after all, not wasted, since a first-class hive always remains an imperishable and a well-paying capital. Regarding the expense of heating, it is a question whether such an expense is not justifiable if it becomes a matter of life or death for a colony, whose price and potential value for more seasons to come, by far exceed such a comparatively small expenditure.

(*b*) On the other hand, *indirect* heating of hives which could be done by placing them in a warm atmosphere, *e.g.*, of a warm conservatory, has much in its favour. In the first place, any hive could be artificially heated by this indirect method provided certain precautions are taken as referred to below. Secondly, the cost of heating is cheaper. Thirdly, it is most suited for apiarists who possess many hives, and it is just as suitable for a small holder who has a suitable place for wintering his few hives indoors. A conservatory which is not crowded with plants may safely enough serve a double purpose during the winter, and will more than pay for its cost of heating. For preference, a special shed for hives, that could be warmed by what-

ever healthy means during the winter, and cooled by sufficient shading and ventilation during the summer, would be highly recommended.

(3) *Safeguards.*—One could greatly depend on the discretion of the bees in not being tempted to leave their warm hive to their own destruction in the cold, outside air. The few that reach the entrance or leave it from a point of curiosity return at once to their home on discovering the great difference between the two atmospheres. But this fact does not mean that one also should not use his own discretion. A successful study of bee habits is essential for successful bee-keeping, and this applies just as much to artificial heating of hives as to anything else connected with the management of bees. Apart from regulating the temperature of the hive either directly or indirectly, it would seem advisable for safety's sake to fit a sufficiently large detention chamber to each hive. This should be always closed during the cold season except on sufficiently warm days when the bees should be allowed to take a cleansing flight and the chamber then cleaned by night. This detention chamber might prove unnecessary for a hive kept in a warm shed which at the same time is not affording to the bees means of access to the open air. It would be superfluous to lay stress on the importance of avoiding overheating that would either make the hive untenable for its occupants or would tempt weak, young bees to a dangerous adventure. Moreover, overheating of hives, by causing the bees to be greatly active, might ultimately predispose to ill health and thus bring precisely what it is intended to prevent. —A. Z. Abushâdy, Ealing.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE STANDARDISATION OF HIVES.

[9576] I have been greatly interested in the letters appearing in the Journal on the above subject, and I trust and hope that the B.B.K.A. will do their utmost to take this much-needed matter up immediately. As suggested by so many correspondents, the best way would be to pick out what are generally supposed to be the best hives on the market, furnish all the appliance dealers with the plans and measurements of the hives in question, and they could then name them No. 1 standard hive, and so on. If this method was adopted, all a bee-keeper would have to do when ordering, would be to ask for a No. 1 standard hive, or No. 2, as the case may be. At the present time, practically all our bee-keepers of military age are on service, and I am quite sure that upon their return to the old country bee-keeping will be taken up in a much more serious light than it has been hitherto. Therefore, we want to place things on a reliable basis, so that the industry in this country can share some of the advantages which other countries enjoy. I think everybody will admit that the W.B.C. hive has always stood out as the best hive for our fickle climate, therefore I suggest that this should be called No. 1 standard hive, to contain 10 frames, and the shallow frame box and section rack to be of the same measurements as the brood box. No. 1A standard hive could be the same pattern hive, to contain, say, 12 frames, and, of course, the shallow frame box and section rack to match. If need be a No. 1B standard W.B.C. hive could also be made to take 15 frames to meet the requirements of those bee-keepers who prefer a 15-frame hive.

Now, as regard No. 2 standard hive, I should suggest a good single-walled hive, numbered No. 2, No. 2A, and No. 2B, to take 10, 12, or 15 frames respectively. However, I would not approve of placing a lot of different types of hives on the market, for what we want if possible is a reliable standard hive in use throughout the country. The W.B.C. hive, being expensive, it would, of course, be necessary to place a cheaper standard hive at the disposal of bee-keepers unable to purchase that pattern hive. I would further suggest that the hives be made as simple as possible, and all fittings not absolutely necessary be done away with. Personally, I would prefer a 12-frame W.B.C. hive, as one wants plenty of room when working with Italian bees, for I have found that the 10-frame hives are far too small with Italian, or other foreign bees. However, with the black bees the 10-frame hive is undoubtedly large enough, as I have found from past experience. In conclusion, I may say I hope this matter will receive the attention of the B.B.K.A., so that something can be done to attain a standardised hive to meet the requirements of beekeepers in general.—No. 249329, Pte. Julian E. Lockwood, E.E.F.

[9577] Mr. J. J. Liverton asks what is wrong with the W.B.C. hive *if made standard* (the italics are mine).

My reply is that certain of the so-called "W.B.C." hives are excellent, and under any scheme of standardisation a standard number would have to be awarded to a W.B.C. pattern hive.

Then Mr. Liverton seems to feel uneasy lest standardisation should kill initiative. I believe this fear to be groundless.

The honour of writing a standard number will be such that initiative should be stimulated rather than otherwise, and whereas on the one hand undesirable types, which might otherwise see the light of day, will be stillborn, the publication of working drawings of standard patterns will encourage bee-keepers to attempt to improve upon their latest achievements. In this way progress should be quickened and systematised.

Mr. Liverton anticipates a certain amount of trouble with the makers, and in this connection adapts the adage, "First catch your hare, etc." I consider more appropriate the proverb, "The one who pays the piper calls the tune," for surely it is for bee-keepers to say what they are prepared to buy.

The progressive makers will not be slow to recognise the advantages of the scheme from their own point of view, and may possibly co-operate in order to work it on the most economical lines possible.

A company, or firm, making standard pattern hives by the thousand will have a great advantage over others making obsolete types by the hundred, or by the score, and as, quite apart from the merits of standardisation bee-keepers will always buy the cheaper of two given hives of equal quality, the success of the scheme seems to me to be assured from the outset.—M. C. HARMAN.

A STANDARD HIVE.

[9578] If we are to have a standard hive, there ought to be more than one type.

The W.B.C. hive, with all respects to those who advocate it, is, to some people, too cumbersome, especially during the swarming season, when hives have frequently to be shifted.

Simplicity of construction and economy are what should be aimed at. These requirements are obtained in a loose floor board, body, super case large enough to shut over the brood chamber in winter, and a roof, nothing else. Bees thrive in such hives quite as well as in those more expensive and cumbersome.

A porch is quite unnecessary, though most bee-keepers seem to have them, and appliance makers attach most elaborate ones. They obstruct the view of the entrance for the bee-keeper, hinder hiving swarms and harbour spiders. If they are put on, they should be easily detachable.—F. W. MOORE.

EXPERIENCES WITH IZAL IN BEE DISEASES.

[9579] In August, 1915, I united two weak stocks, to better stand the winter. Into the dredger I put three tablespoonfuls of flour and a thumb-and-finger pinch of Izal powder, and united according to the books—that is a tip that will work.

On opening three other hives during the following spring cleaning I discovered foul brood, and having no other remedy at hand I fell back on to the Izal powder and flour trick, with the following manipulations.

Seven of the very worst combs I burned, after shaking off the bees, then ten of the next worst I put into a clean hive, with their adhering bees and others from the very bad combs, and gave them all a good dusting with the mixture a little stronger with Izal, with the idea that should there be no improvement in a week, fire was their doom. On opening at the week-end a decided improvement was noticeable, and a good head of workers. I gave them another good dusting, and another week of grace; a greater improvement still, and breeding going on apace. By the end of the third week the disease had all but vanished, and there was a roaring colony wanting more room.

I put them into a 12-frame hive with two frames of foundation in the middle of the combs, and supered the week following. That colony gave me 120 lbs. of surplus.

Thanks very much for all the help I have got from the B.B. JOURNAL during four years of being a bee-keeper, and especially the delightful articles of Mr. J. J. Kettle. I hope his sons will come home safe from the war, so that he could write a book for us rural people.—WM. MALLENDER.

DELIVERY OF BEE CANDY.

[9580] In your issue of the 15th inst., one of your correspondents, "J. B.," Dumbartonshire, says "Breeding ceases through lack of stimulative food, which Pascall's cannot send for fifteen days after receiving order."

Early in September, following the cold weather of August, bee-keepers suddenly found themselves in trouble, and there was such a rush of orders for bee candy that it was impossible to cope with and satisfy all demands *immediately*. As orders are taken in rotation, some customers were advised there would be a delay. By

special effort, however, the orders were overtaken even quicker than anticipated, mostly in less than a week.

Since that first rush all orders have been executed with the utmost despatch, generally by return post or train following day of receipt of order.

Your correspondent's observation, therefore, is at the present time entirely inaccurate and misleading.—JAMES PASCALL, LIMITED.

ECHOES FROM THE HIVES.

My last note to you was before I sent my bees to the Moors; now I have finished feeding them. It has been the worst year at the Moors I have ever had. The 1907 season about equalled it. I just tasted the honey that year, but there was not a drop this; better luck next time, I hope. South of the Grampians it is the same tale, but, according to the *Scotsman* newspaper, there was a good crop on the North side. There was no heather honey on sale in Glasgow when I had a look round. I was in Dumfriesshire a few weeks ago, and there was no heather honey to be got. —J. C. ARMSTRONG, Grangemouth.

QUERIES AND REPLIES.

Queries reaching this office not later than FIRST POST on MONDAY MORNING will, if possible, be answered in the "Journal" the following Thursday. Those arriving later will be held over until the following week. Only SPECIALLY URGENT queries will be replied to by post if a STAMPED addressed envelope is enclosed. All queries must be accompanied by the name and address of the sender, not necessarily for publication, but as a guarantee of good faith. Correspondents are requested to write on one side of the paper only.

FLOOR POLISH.

[9069.] Will you please insert in the *B.B. Journal*.—A recipe for furniture polish made from pure beeswax; a recipe for floor polish made from pure beeswax? —S. H. S., Croydon.

REPLY.—The following recipe is taken from "Producing, Preparing, etc., Bee Produce":—Clarified beeswax, 6ozs.; rectified turpentine, 12ozs. Melt in water bath, just dissolving the wax, then add the turpentine and stir. May also be used as a polish and preservative for leather, wood, furniture enamel, etc. If intended only for cleaning furniture it is better to use 8ozs. of turpentine and add 4ozs. of linseed oil.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

M. FROWDE (Devon).—*Book on queen rearing.*—"Queen Rearing in England," by F. W. L. Sladen. It is illustrated, and may be had from this office; paper covers, 1s. 8d.; cloth covers, 2s. 9d., post free.

E. BELL (Rotherham).—The secretary of the Sheffield B.K.A. is Mr. W. Garwell, 71, Thirlwell Road, Heeley, Sheffield.

H. JOYCE (Burton).—The insect is a Braula Cœca. It does not appear to do the bees any harm, and does not cause the dislocation of the smaller wing; that is one symptom sometimes found when bees are affected with "Isle of Wight" disease, from which your bees are suffering. No need to send any more.

Suspected Disease.

E. HUGHES (Ilford).—The bees are affected with "Isle of Wight" disease.

Special Prepaid Advertisements.

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

***Trade** advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1d. per word as "**Business**" Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.*

*PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock to dispose of. Driven Bees, Nuclei, and Queens that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms.***

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

CLOVER HONEY for Sale in 14 and 28lb. tins, 1s. 6d. per lb. — J. GEARY, Barwell, Hinckley. m.15.

FOR SALE 4 plate Koilos camera, with Goerz Dopp anastigmat f/6.5 lens, can be used either for hand or stand work, twelve single dark slides and film pack carrier. The whole packs in stout block leather sling case, 9in. long, 6in. deep, and 2½in. wide; also light brass telescopic tripod, in leather sling case, all in excellent condition, and used by me to take the illustrations in "Helpful Hints" and "Continental Wanderings." The outfit for sale in one lot for £6; reason for selling have bought a Reflex. A splendid opportunity for anyone wanting a good reliable camera. Will send on approval; Deposit.—HERROD, "B.B.J." Office, 23, Bedford-street, Strand, W.C.

STANDARDISATION OF HIVES.

We have several articles and letters on this subject in type. These will be published as space permits: but we have received so many letters on the subject that it is quite impossible to print them all. The matter has been well ventilated, and we cannot devote more space to it when the articles already in type are exhausted.

A DORSET YARN.

Ruskin wrote, "If you want knowledge, you must toil for it: if you want pleasure, you must toil for it."

Toil is the law. Pleasure comes through toil. One aspiring fruit grower wrote me he "would like to buy a fruit farm: but do not know anything about it." I replied that he had better go and work a few years on one, then he would see how, and what, to plant. The finest tuition one can have is toil, then knowledge will be stored for future advancement. Bees believe in toil: in favourable weather they toil in collecting—in unfavourable they work on the citadel. In summer it seems toil all the 24 hours, for when I have been near them, and have lifted the cover, they are always doing something, even at night, when I have taken a lantern to see if they really are at work.

I am glad that my yarns are now getting a fair share of criticism. Note my statements in issue of November 15 on the wheat production per acre. The table from which I quoted is in the year books, and gives Great Britain the highest average per acre. The books named in letter 9573, page 362, I have never read, but I certainly shall: but the two quotations do not refute my assertion, figures can be made to show what is not strictly accurate. There is less corn acreage in each 100 acres in England, because of so many dairy farms, when each 100 acres in Germany has the greater arable acreage. That being so, there would be more corn as a natural sequence, and would feed more persons. Acres in Dorset are set apart for deer, one estate has buffalo as well as deer fenced in.

Then the acres vary in number of square yards, the statute is 4,840: a Cornish acre, 5,700: Scotch, 6,104: Irish, 7,840: Derbyshire, 9,000, Cheshire, 10,240. What constitutes a German acre? I repeat figures can be made to prove anything. "What I have said, I have said," and until proof is shown me that it is not so, I adhere to the same. Again, some writers take a delight in belittling their own country: I am not of that category.

Warm days are bringing the bees out in crowds: I fancy they have the robbers' song. I passed by a neighbour's garden who has only two stocks, the noise overhead was very distinct, either mine were robbing his, or his mine. What should make them go on the warpath as late as November 18? They are still carrying in pollen, and I see some of them on the Ivy and have seen them on the Aralia, of which I wrote last week. This flower has the same form as Ivy, the seed organs and small sepals are very like each other, only the Aralia is white.

I regret not being able to make acquaintance with Mr. Stride, of the Bournemouth branch of Hants, B.K.A. I was only there a short time, one of my staff was sick, I had to go with the horses to plough, and could only spare an hour or so. I wanted to put up an exhibit myself, but the work must go on. "Toil is the law." The soil must be tilled or the crops cannot be a success. I met Mr. Weaver, the able gardener at Chewton Glen, Highcliffe, he had a swarm from our farm in May, they did so well he made another from it: but one of them was cleaned out, I expect that one robbed the other of its store. Bees have no code of honour. With them, might is right. Mr. Weaver is always a great prize winner at this exhibition, but it's not without toil: he knows that if you want prizes you must toil for them. He would not have had the silver cups without toil. His potatoes and fruit were only brought to perfection by good tillage, "toil is the law." It is remarkable he has done so well, so short is his staff now.

We must be moving on. A branch of B.K.A. in Bournemouth, another in the New Forest: it is Dorset's turn next, the sooner it comes, the better for booming the craft among our own people.

The chief thing for us is to have bees that are immune to the disease: or something that will cure them when they once get it. In a letter from an officer in the Canadian Troops in France, about bees which he had in far-off Vancouver Island, he says he "is struck stiff by the losses from 'Isle of Wight' disease in England." In British Columbia the average was 40lb. per hive a year: but in California the average was 130lb. per hive each year, but then the U.S. always do big things. If the bees are losing workers by disease, there cannot be too much sur-

plus honey. Our lot made so much in early summer, though some of my near neighbours had a rather poor yield; but, generally, it was good in Dorset. At Branksome Nurseries Mr. Haskins, jun., has quite a number of stocks. His father told me they had done well, and there was no disease: it is good to know that there is no trace of "Isle of Wight" disease in the evergreen valley. These nursery growers of beautiful trees and shrubs have made Bournemouth the cream of English seaside health resorts. They know that so many beautiful things from the Mediterranean coasts will live and thrive in the warm, sheltered valley, choice sub-tropical plants of Palms and Camelias. And there are to be found huge clumps of the fine Aralias in full bloom. At the famous Durley Dean Hotel on the West Cliff they are very fine. It is these nursery growers who plant all these, and other somewhat tender things, that would be useless to plant in colder parts of this country.—J. J. KETTLE.

THE BEE GARDEN.

FOOTNOTES AND ADDENDA.

This last week hyacinth bulbs have reappeared in the market, but at a shilling each they are an unjustifiable luxury in present circumstances. Far better value are Crown Imperials at sixpence each. These are good nectar plants. Apropos of early-flowering bulbs, the mention of the Glory of the Snow (*chionodoxa lucilliæ*) in another connection by a correspondent in the JOURNAL, reminds me that this subject is one of the earliest flowering bulbs. It is an exquisitely beautiful flower, and can be used, like Scilla Sibirica, for clumps or borders. In lines it produces a very striking effect. The bulbs should be planted 4 in. deep and 3 in. apart. They resent disturbance, and improve each spring for several years.

Another good bee flower is the Summer Snowflake (*Leucojum Aestivum*). It may be described as a large, late flowering snowdrop. It is quite hardy, and not difficult as to soil. Plant in clumps, 3 in. deep. By the way, snowdrops naturalised, *i.e.*, scattered broadcast over lawns and under trees and planted where they fall, make a delightful feature, and the foliage is sufficiently matured to be cut with the lawn without any deterioration of the bulbs ensuing.

Roses.—The correspondent who asks for cultural directions *re* "Little Connemara Rose," and inquires whether this is one of the Irish series referred to in my notes on this class, is hereby informed that the answer to the query is in the negative. As to the culture, I recommend its being carefully opened or spread out on a wood, or metal music stand and sung with an "arch" expression. With careful training, will climb to a height of C alt. No, its raiser, although a Dickson, is neither Hugh nor Alexander D. Other wags, please note.

Two charming varieties for training and creeping standards should be added to my previous list—Sweet Lavender and Newport Fairy.

While on the subject of single roses, may I commend to all rose lovers Mr. G. Bunyard's article in the *Journal of the Royal Horticultural Society*, Vol. XLII., p. 145. It is a delightful exposition of "my doxy" in rose growing, and an admirable guide to a selection.

I had hoped that my list of edible berries suitable for garden cultivation was fairly exhaustive, but already my attention has been called to the following additional varieties:—

The Mahdi, a cross between the common Blackberry and Raspberry Belle de Fontenay. It resembles the former in habit and foliage. The fruit ripens in late July or early August according to the season. Its flavour is said, on very good authority, to be superior to that of the Loganberry.

Himalaya Berry.—This seems to have been first introduced *via* California, Luther Burbank having the honour of bringing it into commerce. The Californian strain was not, however, quite hardy, as almost all the stock was lost during a severe winter. Messrs. Laxton, of Bedford, appear to have got control of a superior strain, which is gaining high commendation. This is a Blackberry which produces its fruit from the old wood for several years, not from that of the previous season only. It is a very strong grower.

Worcester Berry.—This is a quite new and distinct introduction by Messrs. Parsons, of Worcester, hence the name. It is described as a hybrid of Black Currant and Gooseberry, a most interesting cross. Like all novelties, it is high-priced, but, if it proves an acquisition, will doubtless be grown in large quantities at a more popular price.

Wine Berry.—I have already mentioned, but may add here a word on the necessity of protecting the fruit from birds, as they are very partial to it.

Barberry (berberis vulgaris).—Of all the barberries, the one specified is the only one recommended to grow for the edibility of its fruit. This is scarlet, very acid in flavour, but in pies and tarts, or stewed, with apples or other fruits, is very refreshing and nice. The bright berries are very pretty in autumn. The shrub will grow in any soil, and makes a sturdy bush up to 8 ft. in height.

There are many other beautiful varie-

ties well worth growing for the attractive appearance of their foliage and berries. Several of the newer ones introduced from China by Mr. Wilson, *B. Wilsonæ*, *B. Stopfiana*, *B. subcaudialata*, which keeps its fruits good in condition and colour until December, *B. polyantha**, *B. Prattii*, *B. brevipaniculata*, all deciduous, and *B'verrucnlosa*, with *B. Sargentiana*, the latter hardy, both evergreen, may prove to number some varieties which shall equal or surpass *vulgaris* in edible qualities.

Some of the newer brambles, too, may prove valuable additions to this class. One white-stemmed one comes from the Himalaya *Rubus biflorus*, *R. leucodermis*, the type from Western North America, as does *R. spectabilis;* this latter, with transparent yellow fruit. *R. nutkanis* has the creeping habit of rose *wichuraiana*, and like it, is good for covering banks, etc. Rose and bramble are alike also in having white flowers. These are very beautiful, and freely produced in fine sprays, followed by small fruits which Dr. Balfour tells us are appreciated only for the black bears of the country (Washington State, U.S.A.). Another creeping variety is named *R. irenæus*, an allocation which, to my butterfly mind, evokes lions, martyrs, conventual education, and in a last flutter, that little gem, *Les Vieux*, of Alphonse Daudet.

Our school days have been recalled to us by the reference to Xenophon, Ονaβασις in connection with the question of toxic nectars. We have been told the effect upon such of the ten thousand as partook of honey gathered from, presumably, *Rhododendron ponticum*. I have my own grave doubts of *tilia petiolaris* as related a week or two since, and now find, in Root's A.B.C. and X.Y.Z., p. 428, a reference to mountain laurels as yielding a honey dangerous to human beings. A bee-keeper doctor, Dr. J. P. H. Brown, is also cited by Root as condemning Yellow Jessamine (*Jasminum nudiflorum*) on the same ground, and by Dadant, Langstroth, on p. 387, as bringing a similar charge against *Helenium tenuifolium*. We know that one variety, at least, of the former subject, contains a toxic principle, gelsamine, an alkaloid which, in tincture, is used as a headache cure, so that there is nothing surprising in the charge as relating to it; but as regards *Helenium* the situation is quite otherwise serious. Only *H. tenuifolium* is mentioned, but what of *H. pumilum*, *H. Riverton Gem* and all the other charming varieties of *H. autumnale* that are justly becoming so popular?

On September 15 I saw large clumps in the garden at Hampton Court, magnificent masses in full bloom. Even my eldest boy, who was with me and is, I suspect, rather fed up (his expression) with my bee mania, called my attention to the thousands of hive bees, blacks, Italians, and hybrids, that were crowding on them. I made a note to get and to recommend this subject as a first-class bee plant, but Dr. Brown's dictum gives me pause. Can anyone reassure me on the point?—A. F. Harwood.

B. polyantha fruits so profusely that if the fruit be found edible, the easiest way of gathering it would seem to be that used by the Indians to gather the blaeberries (*vaccinium myrtillus*), *i.e.*, the use of a coarse wooden comb.

THE FLAVINES AND SOME BEES.

The light of diamino-methyl-acridinium chloride (Acriflavine) was not hidden under a bushel. During the winter of 1916-17, medical journals and the daily Press extolled its virtues. The only trouble was to get some. Repeated orders to wholesale drug houses produced none, and precious time was being lost. Dr. Browning was appealed to, and under date of March 23 he replied that supplies were not yet available. At the same time he stated he was very much interested in the proposal to try the drug on bee diseases.

The days went by, and thinking the bacteriological bee talent had cornered the market a request for information on this point was answered by Dr. Browning, April 7, that the writer was the only applicant for the drug for bee purposes. April 20 he wrote again to say that the Medical Research Committee had my name and would supply Acriflavine on request.

Nothing doing—the M.R.C. did not even answer letters. In the meantime diseased stocks, earmarked for treatment, were dwindling and dwindling; and the owners were using anything but antiseptic language. More frantic appeals to Dr. Browning. At last, May 9, a small bottle was received from the doctor containing about two grammes of the drug.

The bees at the U. of C. Field Labs., that had lapped up Dakin's solution, methylene blue, brilliant green, etc., etc., during 1916 had all survived, and all, excepting two controls, had been fed up with honey extracted from combs diseased bees had died on. The jugglings and dosings they had undergone had not improved their tempers. The seven hives stood out in the open, exposed to winds from all quarters. Those bees, not satisfied with a clear view all around, maintained aerial patrols in all directions of an aggressiveness that was even painful to animals accustomed to frequent punc-

tures at the hands of bacteriologists. When they had attacked labourers working a hundred yards away, chased men off haystacks and out of the grounds, the security of their tenure seemed doubtful. They had been allowed to winter in peace, but early in 1917 they had received notice to move on.

Tactics and strategy, combined with a camouflage of mud and bad weather, had saved them thus far. But after the five stocks had been dosed with $\frac{1}{8}$ grain Acriflavine in one pint of warm water, which amount was sufficient for the lot, nothing worked. Men sprinting to shelter would not stop to listen to talk of "low visibility." That was May 11. May 13 they were given another dose, of double the strength, $\frac{1}{4}$ grain to one pint of water. It was given before breakfast, and I left by way of the fields. May 21 a dose of $\frac{1}{2}$ grain Acriflavine was given at sunset, and the bees were moved away that night. All survived to this day, though none of the five received another dose.

The two controls came again in my possession June 3, and received a treatment with $\frac{1}{8}$ grain Acriflavine to one point of water. As no symptoms developed, they are being kept as controls, and are all right to-day.

May 14, twelve "crawling" stocks, belonging to the Young Bros., received their first treatment with Acriflavine. These enterprising bee farmers, whose well-known brand of honey is esteemed in many markets, had agreed to send any diseased stocks from the apiaries to an isolated "bee hospital" at Cherry Hinton, Cambs. During the long wait these cripples had accumulated to the number of twelve, and they were dwindling badly. Crawlers covered the ground. Three lots were so weak that, after spraying, they were just piled on top of each other. It was not thought worth while to bother about the queens, the bees, if they survived, could attend to that themselves.

The "Sovereign" sprayer holds about one quart of water. One quarter grain Acri flavine dissolved in this quantity was all the drug needed for the dozen stocks. Each received a thorough dosing, bees, combs, floorboard and brood chamber walls. Under the expert manipulative skill of Mr. Young, the twelve hives were opened, treated and closed in thirty minutes. The few ounces of surplus fluid were sprayed over the crawlers around the hives.

May 23 the writer treated the same lot again. Very few crawlers were in evidence. The three-storey lot were bringing in pollen. All the bees were in the lowest chamber, and only one queen was seen, but there were eggs in one comb.

These bees were not treated again. All survived and gave surplus. November 16 the Young Bros. informed the writer that all was well with the lot.

S. H. SMITH.

DEVELOPMENT OF BEE-KEEPING IN KENT.

A momentous event in the history of Kentish bee-keeping took place at Dartford on Saturday last. A County Conference of bee-keepers had been convened by the Kent Bee-Keepers' Association, and by the courtesy of the Urban District Council it was held in the Council Chambers. In convening the meeting the Kent B.K.A. stated that two papers bearing upon some important aspects of bee-keeping would be read, and discussion requested in full. That was a quite ordinary procedure, and was marked by nothing of a special nature. But its results were of a very special nature. Few guessed, none knew, but in convening that particular Conference the Kent B.K.A. laid the foundations of revolution in bee-keeping. That much is plain to the least discerning participant. Who can say what is the vision of those who see deepest and farthest?

The proceedings opened with a short address by the Chairman, Mr. Alfred Dewey, who in apt words expressed his belief in the great value of these periodical conferences, at which bee-keepers could discuss matters of importance to the craft, and he did not, on this occasion, intend to stand between them and the purpose for which they had met. He therefore had pleasure in calling upon Mr. M. C. Harman to read his paper upon the "Standardisation of Hives."

In his introductory remarks, Mr. Harman referred to the discussion which had been going on for some time in the BRITISH BEE JOURNAL upon the subject of hive standardisation. As a result of that discussion he had been able to come to the conclusion that the present was the time to put the principle into practice.

The present is the age of standardisation, and in spite of some danger of lack of further development, which in certain cases it may be apt to induce, he was convinced that the great benefits secured by standardisation far outweighed that risk. The result of past and present efforts at hive-construction had been to produce many types of hives. Bee-keepers could often be found with several hives, no one of which was a replica of, or interchangeable in its parts with any other. Indeed, it was a well-known and deplorable fact that hives, even of the same type, turned out by different manufacturers, were of

such difference in dimensions and details as not to be interchangeable.

In these circumstances he propounded a scheme whereby a Committee should be constituted to deal with the matter of hive standardisation. Such a committee should bear in mind the different needs of different localities, and the requirements of the various races of bees in use. Having arrived at decisions as to the types that were needed in these, and in any other important respects, each type should be standardised, and a standard number allotted. Thereafter it would only be necessary for the prospective buyer to decide upon his hive, then from whatever maker he might order, it would be that particular hive and no other, and would be subject to no variation or modification by the maker whatever.

In order that amateurs and others desiring to build their own hives should proceed upon standard lines, drawings should be prepared, and circulated in a manner and at a price that would render them easily available for everybody.

He discussed at some length the effect which standardisation might have upon the manufacturers, and came to the conclusion that no reason, or interest, existed with them which would outweigh the advantages of such standardisation, even from the point of view as profit-makers. On the conclusion of the paper, and during the discussion which followed, it began to be realised that unusual business was astir. Scarcely a dissentient note was heard. Impatience for the realisation of such a scheme was the leading motive of the speeches.

When a resolution urging action on the part of the British Bee-Keepers' Association was put it was carried with a tone which indicated the determination to see the matter through. When a second resolution was put, and carried with enthusiasm, that the Kent Bee-Keepers' Association should appoint a committee to go into the subject and draft a scheme on behalf of Kent bee-keepers, it emphasised the determination of the meeting that nothing was to stand in the way of realisation; that Kent bee-keepers were quite willing to stand by their conviction, and, if need, again be the first to raise the standard of progress and hope. Such was the beginning of revolution, but more was to follow.

After an interval for tea, which, though simple, afforded the necessary break in the proceedings, a brief speech from the Chairman introduced the next speaker, Mr. F. C. Hodgson, who read a paper on "Our Future Development." Seldom, if ever, have two papers been as mutually complementary as were these on this occasion. It might have been imagined that the two speakers had been in close collaboration, and had agreed upon a division of labour. As a matter of fact it may be definitely stated that the two speakers, although county men, saw each other for the first time in the Council Chamber on Saturday afternoon, and that neither had ever written one word to the other. Mr. Hodgson's paper covered a wide field of development, with four specific suggestions. His first theme was the desirability of giving occasional advice to bee-keepers according to the peculiarities of their locality. Guide books and periodical publications were too general to be of value in this respect. Bee-keeping was not only essentially local, but it was also subject to great variations as to season. He proposed, therefore, that the Kent Association, through its district branches, should issue periodical circulars to its members containing the necessary hints on management according to the needs of the locality and the season. His next proposal was the formation of Association apiaries, at which investigation and research could be carried out, and other matters of vital importance to the craft which individual bee-keepers were unable to touch, would be dealt with. Above all, he insisted, such apiaries would be useful as centres of instruction. If bee-keeping was to take its proper place in rural economy the creation of properly equipped bee-keepers was a prime essential. Such equipment in the principles and practice of the craft could only be supplied by a systematised course of instruction at apiaries of this nature, placed under the management of a committee of specialists.

He next drew attention to the need of legislation in regard to bee-keeping. For introduction he quoted a letter in a recent number of the BRITISH BEE JOURNAL, in which the writer had been forced to conclude that it is only a palliative treatment to use antiseptics for "Isle of Wight" disease, since a successfully treated stock might be easily reinfected, and consequently microsporidiosis would never under the present conditions become a rare disease of bees in this country. That, he said, contained in small compass the real substance of the position of bee-keeping in the matter of disease among their stocks. He did not believe that a cure had not been discovered for "Isle of Wight" disease. For instance, he was open to the suggestion that there might be several. The reason for the contradictory results obtained by their use in different hands and in different localities might, in part, be attributed to faulty methods, but more, much more, to the

fact that reinfection from diseased local stocks followed so swiftly on cure as to be mistaken for continuous infection.

This view could be corroborated by the many instances of outbreaks after all apparent signs of the disease had vanished. He therefore proposed that the conference should urge the British Bee-Keepers' Association to convene a meeting of county delegates, at which this matter could be discussed and some common action agreed upon. Meanwhile, he suggested that members of the Kent Association should consider the possibility of voluntarily submitting themselves to the regulation of their committee in this matter, with the object of effecting at least a partial cleansing of one corner of the country.

The fourth proposition which Mr. Hodgson put forward was one which had been discussed in various forms and at various times by isolated members of the Association. But to him fell the lot of bringing the matter boldly out into the light of public discussion. His proposal was that members of the Association should form some sort of Co-operative Trading Association to deal with their requirements, and if need be to assist in the disposal of their products. In an Association of the purely educative and propagandist nature of the Kent Bee-Keepers' Association such a suggestion might reasonably have provoked strong opposition. Instead, only the warmest approval was evinced, with almost complete unanimity. He did not belabour the principles of co-operative trading, evidently believing his audience too well supplied with information on this point to need any further enlightenment. He merely outlined in brief one or two methods which the members might pursue to form such an association as they would need in their own particular case, and then suggested that their discussion of the pros and cons would be much more satisfactory than his personal views on the matter. With that the reading of his paper terminated, and the Chairman opened the discussion.

Complete agreement as to the desirability of the developments which the last paper had suggested was evinced during the course of the discussion. As a result two committees were appointed — a Development Committee, to which all matters relative to the development of the Association could be referred, and the immediate business of which was to report upon the subjects touched upon in the paper, with the exception of the question of forming the Co-operative Association, this being referred to the second committee which was specially appointed to inquire into this subject and report at an early date. In his speech upon the two papers, the Secretary of the Association, Mr. G. W. Judge, referred to the occasion as a red-letter day in the annals of Kent bee-keeping, and so it was felt to be by all present. The atmosphere was tense with a determination to make the most of all opportunities for progress, and for rendering loyal service to the community in these days of stress.

With a vote of thanks to the Council for the use of the Council Chambers, to the lecturers for their valuable papers, and to the Chairman for his tactful services, terminated one of the most notable meetings in the history of Kent bee-keeping.—(*Communicated.*)

THE PASSING OF SUMMER.

I am sending you a short article which you may like to use in the BEE JOURNAL. I should like to thank you again for so kindly sending me a copy each week, and I can assure you that, next to the letters from home, it is the most welcome thing I receive; I am deeply interested in it, and especially in the charming articles by Mr. J. J. Kettle. He is a man after my own heart, a keen and sympathetic lover of Nature, and I hope I shall have the pleasure of meeting him some day.—OLIVER G. PIKE.

The summer, with its pageant of flowers and song, has gone. That busy music of the bees, going to and from their hives has ceased, and those of us over here in the midst of war, with all its horrors, have another dreary winter to look forward to. I have written before of our bees, the study of which helped to pass away the hours, and now they are sleeping, or preparing for that long wait until the primrose once again calls them to the awakening world of flowers. I am writing from a dug-out, far down under the ground, and outside it is a dark, wet, autumn day, when even the hurry and bustle of war seems to have abated a little. I am thinking of the summer which has gone, and also of friends who have passed away to the great mysterious beyond—good, brave men, who have given their lives for the love of dear old England. But my thoughts always will wander to my beloved bees, for have not they been the means of making my life happier, and helping me to learn more of the wonderful works of Nature?

That first day of spring, now nearly six long months back, when I discovered an apiary of old skeps which had escaped war's violence, was one of the happiest I have spent out here, and many another happy day I spent in watching the bees

at work. Three of the numerous swarms which left the hives were placed in boxes, and were the special property of our photographic section, and, later on, at the end of the summer, we had over 70lb. of delicious honey, which was distributed amongst the officers and men of our squadron. Unfortunately, right in the middle of the honey flow, our squadron moved, and it was not possible to take the bees with us, but we left them in charge of an old farmer, who promised to look after them. Not understanding much about bees, he moved two of the hives into his garden, a very short distance, with disastrous results, for thousands of bees were lost through not being able to find their homes. If they had been left alone we should have had over double the quantity of honey.

The summer here has been a wonderful one for swarms; I have never known anything like it; and in England, too, I heard of many remarkable instances of swarming. My own bees there kept it up continuously to the middle of September!

We moved to a spot from which the Huns had been driven, and it seemed at first a desolate place, but although there were no bees, I never saw anywhere such a wealth of wild flowers. All the villages round about, and there are many of them, are just smashed to dust by the bursting of great shells, and in the once beautiful old gardens there are many signs that bees once flourished here. I have seen portions of skeps about, blown from their stands, but not a single bee. Often as I stood out on the fields, which have seen such desperate fighting, and looked at the sea of colour from the flowers, I thought what a harvest of honey was being wasted! The air was sweet with the aroma of white clover, and seldom have I seen such a fine crop, hundreds and hundreds of acres, and not one honey-bee to gather the nectar! There were, too, patches of lovely veronica, and I can never pass this by without stopping to gaze at the glory of those small blue eyes. I like to think that when the great Creator planted the flowers in His vast garden—the world—He had a little blue left over from the summer sky, and a little to spare from the blue of the tropical seas, and, perchance, there was some from the eyes of little children, and He put this together and painted the petals of the tiny speedwell. Then there were dozens of other kinds of flowers, and in places great patches of thistles, acres of them, and their blooms at sunset tinted the fields for miles with a touch of purple. And always there was the skylark's song, for many a nest was cunningly hidden down amongst that vast array of flowers. Now all are gone, and tall, dead thistle stalks and coarse grass are all that remain to remind one of the pageant that has passed.

The flowers are dead, their seeds are sleeping, and we all look forward to that great awakening, when the sunshine of spring will call them to life. And when we again stand and listen to the song of the lark, high up in the blue of an April sky, I feel convinced that we shall be listening to the herald of a great and lasting peace, which will come with the blossoms and the songs of birds to make happier this war-stricken world.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BEE FOOD.

[9581] I should like to endorse the sentiments of your correspondent, No. 9574.

In this district, within a one and a-half miles radius, over 34 stocks have died, whose owners could not afford the official price of candy.

Think of the loss of honey and fruit to the nation in this time of especial need, if only in this district. What must it be nationally?

May I offer a suggestion:- That a deputation, say, the county secretaries, meet and form a deputation, wait on the Government, and get the injustice altered.

All applicants for sugar to get their application endorsed by the local police, or public body, stating the number of stocks kept.

I should like to add that I have found bees come through better when fed with medicated syrup in September, than with honey.

The most important point to bear in mind is that the large majority of bee-keepers are cottagers who willingly paid the pre-war figure 2½d., but 10d. and carriage is a different matter for these people, some of us are in a better position, and are able to pay, but we are a small minority.—H. OSBORN. Hants.

SUGAR FOR BEES.

[9582] I don't think your correspondent is quite fair in his remarks about Messrs. Pascall & Co. not sending bee candy for fifteen days after receipt of order.

I ordered some last September, and mentioned that my bees were *starving*, and Messrs. Pascall & Co. sent me several pounds by return of post, and the same thing happened this month. "Execution before proof means rascality." — J. B. DUMBARTONSHIRE.

DIOXOGEN AND "ISLE OF WIGHT" DISEASE.

[9583] In March last I sent you some dead bees from a hive which showed symptoms of "Isle of Wight" disease—the bees dying fast. You kindly examined those I sent, and reported, confirming my suspicions. It at once began to spray with Dioxogen, and the stock rapidly recovered and became very strong, yielding 93lb. of surplus honey. They have commenced to winter in excellent condition.

I thought this result of use of Dioxogen might add to the testimony already given in your valuable journal as to the efficacy of this treatment.—(Canon) HARRY BARTRAM.

LATE POLLEN.

[9584] Bees were at work on Laurestinus and Coronella (blooming out of doors) and carrying in pollen, November 21. Is not this very exceptional?—F. W. SUSSEX.

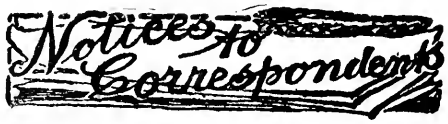
[It is very late in the year for bees to work.—EDS.]

DEALING WITH DISEASED BEES.

[9585] I suppose you have amongst your readers, all the expert knowledge there is to be found on matters of bee-keeping, and am wondering if any of them can tell me what to do with mine.

I had 14 stocks affected with "Isle of Wight" disease. Mr. Smith was kind enough to send me a liberal supply of his new remedy, with which I sprayed all stocks twice, and some three times; also mixed some in their food. Four stocks I sprayed with Bacterol, and mixed it in food, but neither of them checked the disease. Two of them I left open; they soon wasted away. The other 12 I left closed up pretty much, opening occasionally, which always meant a loss of life. Now I have 12 hives with live bees, but many of them cannot fly.

Can any of your readers tell me what to do with them? I am convinced if they had been left open there would not have been any alive to-day, and possibly the first loss would have been least. I might say they continue to take food.—CHESHIRE.



Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

WRENIN (Wellington).—*Sample of Metheglin.*—You have allowed fermentation to proceed too far, or the vessel in which you kept it was not bunged closely. It is a splendid sample of vinegar, better and more wholesome than malt vinegar. When it is a year old you may use it for any purpose that malt vinegar is used for. It will improve with age, and does not need anything adding to it.

G. M. (Stafford).—*Cushion for Hives.*—You may use the hay instead of straw. Either are better for the purpose when chopped into short lengths, such as the "chop" used for feeding horses.

T. D. (N. Wales).—Fume with formalin, or soak for several hours in a strong solution of disinfectant and water.

C. B. LINDSAY (Horley).—The insect is not a bee at all, but a fly *Eristalis tenax*, commonly known as the drone fly.

S. GRANTHAM (Lewes).—We cannot say without knowing the amount of stores in the combs, probably about 14 or 15lbs.

Honey Sample.

ANXIOUS (Sussex).—The honey is foreign, and poor stuff at that. It is thin, and the flavour rank.

"SCOT" (Ayrshire).—The honey is English, mainly from Sainfoin.

Suspected Disease.

D. W. J. (S. Wales).—(1 and 4) "Isle of Wight" disease. (2) Move them now, or, better still, destroy them. It is a bad case, and it will be a miracle if they survive the winter. (3) Native.

J. C. (Handcross).—There are symptoms of "Isle of Wight" disease in No. 1, but we cannot find any in No. 2. Give plenty of ventilation, and keep the hives supplied with disinfectant.

Special Prepaid Advertisements.

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at 1d. per word as "Business" Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of 3s. per ¼in., or 5s. per inch.

PRIVATE ADVERTISEMENTS are only intended for readers having Surplus Stock to dispose of. Driven Bees, Nuclei, and Queens that are reared or imported for sale, are Trade Advertisements, and can only be accepted under trade terms.

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FOR SALE.—Surplus Bee Books, American and some old English.—Price lists from D. M. MACDONALD, School House, Morinsh, Ballindalloch, N.B. m.22

WANTED, W.B.C. HIVE (one or more).—Particulars, dimensions, outside lifts, price, BLACK, Westerton, near Glasgow. m.23

SPECIAL NOTICE.

It is with great regret we have to inform our readers of a rise in price of THE BRITISH BEE JOURNAL. From January 1 the price will be twopence, instead of one penny. We are one of the very few papers which, up to the present, have made no advance in price, but force of circumstances compel us reluctantly to take this course. Paper is very difficult to obtain, even at its present price, which is 650 per cent. more than pre-war prices. In all other departments our expenses have greatly increased and are continually mounting up at a tremendous pace. Pressure brought to bear upon the masters by the union of compositors has led to continual rises in cost of printing. In one department only during the past few months rises of 25 per cent., 15 per cent., and 12½ per cent. have taken place on numerous preceding ones. In fact, postage stamps are the only things that have not advanced in price. We sincerely trust our readers will stick to "the old reliable," and support us through the crisis, and help to keep "*the only weekly bee paper in the world*" flag flying, until victory over our enemies brings once again normal conditions. We shall at the first possible moment revert to our usual price.

NOTICE.

The Council of the British Bee-Keepers' Association, 23, Bedford Street, Strand, W.C.2, will be glad to receive, *in confidence*, particulars of the quantities of sections and bee food required for the coming season by appliance dealers throughout the country. If the necessary information can be obtained, it is hoped that arrangements may be made for supplies through the Ministry of Food.

A DORSET YARN.

Bees are still very busy this mild weather; pollen is being carried in, but the source of it seems a mystery to me. The colour is like charlock, but this seems all past its best, though some is still to be seen as one follows the plough. They are flying high—they are going away somewhere. The ivy is the only flower that is in quantity anywhere. During the warm week up to November 24 bees were very much in evidence, still working over the few late flowers of raspberries; some are on the violets, but nothing like the number there are on the raspberries. I hope the birds will carry the seed of my new one into the woods; it will be fine food for bees, as it blooms from May till sharp frost comes. We are still extending it, in lines 300 yards long, with plums at 10 ft. in the same lines; they were very remunerative last year, never less than 6d. per lb., and as high as 10d. in the summer. Half-pound punnets this autumn have realised 1s. each. This variety fruits the same season as planted. We laid out half-an-acre in March and April this year; they fruited well in summer, and have given me fruit up till now. If these get wild in the hedgerows and roadsides, like the blackberry, it will be a continuous feast for the bees, and will carry on in quantity when the blackberries are over. All around this neighbourhood raspberries are to be found growing wild, as they are in all parts of England that I have lived. It is quantities that tell for the production of honey; this is where the rural districts of England are so much better for the bee man than the urban towns and suburban cities.

I have boomed rural England so much in these columns that letters keep on coming through the office of the B.B.J. about the sylvan beauties of the homeland. I have just received one from a bee man in France, who has left his bees to take care of themselves in order to do his share in this terrible campaign for the freedom of the world; he reads the JOURNAL in rural France, often times the only scrap of printed matter from the homeland he ever sees, and reads of fields of flowers, and trees borne down with their luscious fruits; he sees every day rural France all laid waste by the despoiling hordes of the invading Germans. How he must long for his bees and his home. His manly letter of his hopes when he returns to extend his fruit trees, with lines of camomile and bee-loving units of the vegetable kingdom, proves he is not "down-hearted," but one could read between the lines how his heart yearned for his native land; may he soon come home to it again. If my yarns cheer the soldier I feel they are not written in vain, and am glad I started yarning of bees and rural life.

One writer tells me that the yarns should be revised and made into book form, with a few photographs and coloured plates, as the digressions from the subject of bees add interest to the whole. Even if I had the money to spare for printing same, it is doubtful if the yarns would catch on to the general public; still I am grateful to the kind thought of the writer in his nice letter. "A fellow feeling makes us wondrous kind." From a

boy I could always yarn, but did not know that one's thoughts were worth writing for books; it would take a lot of time to revise them. I am indebted to Mr. Herrod-Hempsall for a lot of spelling and punctuation as it is; more than that, I want to wholly redeem the land that is not free from the capitalist. If the book sold it would help to do that, but the risk is too great. One never hesitates about buying fruit trees, as years of experience make one optimistic as to the results; we dibble in lines of tops of currants and gooseberries, as the results are sure; if one invests in bees the income from some of them is sure: but in books, it is "casting your bread upon the waters, and finding it after many days"—it might be *very many* days.

Another letter is from a Yorkshire bee-keeper, who hopes to come to Dorset with his bees in the near future, and if he goes to Bridport, as he hopes to do, he will find it is a fine place for his bees, as I was told of one farmer near there that had nearly a ton of honey this year. This place is famed for string and web manufacture, and it is in one of the parts of England that has a deal of rainfall: I think it ranks next to Cumberland for moisture. It is a fine country for agriculture, warm and sheltered from the cold north winds; the hills are the hardest I have ever negotiated with a horse or bicycle.

One writer asked me to write more of the capabilities of the land. I thought I had laboured the theme fairly well. Of course, it is all one knows; it is the oldest industry, and statistics show it to be the healthiest one, though I think the country parson lives a year longer, as the "Friar of Orders Grey" sang, "Who lives a good life is sure to live well," and that makes him live longer.—J. J. KETTLE.

THE BEE GARDEN.

FRUIT TREES AS ORNAMENTALS.

It is not proposed to recommend the planting of apple, pear, plum or cherry trees for ornament. To repeat a phrase once heard in never-to-be-forgotten circumstances, "I so much prefer the effect in the mass," said mass being, properly, an orchard.

There are, however, certain fruiting trees which are seldom grown in large numbers together, or indeed, for that matter, in single specimens. Yet some of these are among the choicest and most beautiful we have.

Crabs.—One of my earliest recollections is of the visits I occasionally paid with an uncle of mine to some cottage property he owned on the outskirts of the little Oxfordshire town near to which I was born. In the garden of one of these cottages were several Siberian Crab trees (*pyrus prunifolia*), and I well remember that one year, the cottage being temporarily unoccupied, I had the task of gathering the fruit. I see and taste it now. Red as to the exterior, golden yellow inside, melting and rich in flavour, elongated in shape, from the feast I had of them dated the resolution that if ever I owned a freehold of my very own a Siberian crab should adorn it.

Beside the Siberian, there are several varieties of coloured crabs cultivated: John Downie, Dartmouth, an American introduction, transparent and transcendent, this latter red and yellow, very large and showy. All are excellent for making jelly.

Checker (*P. torminalis*).—This handsome tree seems to be confined, as a fruit tree, to Kent. It is a cousin of the Rowan or Mountain Ash (*P. aucuparia*), and bears its berries in similar clusters. These are not tempting or well known enough to run any risk of damage being done to the trees by boys, and are the more suitable for avenues, parks, etc.

Service Tree (*P. sorbus*).—The preceding is sometimes confused with this, but the two varieties, though closely allied, are quite distinct. As the checker is intermediate between Rowan and Service, so Service is a link between Checker and Medlar.

Another early recollection.—I'm told that this harking back is a sign of senescence—is of a walk through Ditchley Park, and of seeing two people, the one, a lady, dragging over the grass toward the house a biggish branch of a tree, covered with greenish yellow berries; the other, a gentleman, carrying in his left hand a coloured handkerchief, knotted as is the custom with those who convey a substantial lunch to the scene of physical labour on the land or in a trench down the midst of a main thoroughfare. Ever athirst for information, I asked an estate carpenter who was passing the names of the couple and the nature of their spoil. "Why, 'tis their lord and ladyships, to be sure; her be a dragging a limb of a sarvice tree, an' his lordship ha' got musharooms in that ther hanksher." The Viscount Dillon, hero of this incident, used always, when walking over his domains, to carry a thistle hoe as a walking stick. How the rarer finches would have sung him a hymn of hate, had they noted his little idiosyncracies!

May I add that I took immediate steps to qualify as a critic of the seigneurial taste in outside fruits, and after a period of probation, punctuated by visits to a tallet window outside which a branch of

P. sorbus had been hung to mature, I did so qualify, my verdict being favourable, with a rider that search must be made for further supplies.—A. F. HARWOOD.

STANDARDISATION OF HIVES.

Since the publication of my previous article in issue of September 20, p. 294, no very definite steps seem to be under way to get the problem settled. It is an opportunity for the County Associations to get in some really useful work. I trust secretaries will bring the matter forward and provide a live subject for early winter work in committee. Special committees might well be called for the subject, to be followed up by general meetings, at which a vote could be taken and the result laid before the council of the central body, and thus contribute to a successful effort.

As for leaving the matter to hive manufacturers, I would refer interested readers to the British Bee-keepers' Practical Note Book (1908, Third Edition). The protest therein, page 59, remains as necessary now in 1917 as then, or what are we agitating about? If makers have not seen the error of their ways in the nine years intervening, there is no call to pin our faith in them now, without a very energetic push on the part of those who have to use what they produce. And bee-keepers are as well able to discern the efficiency, or deficiency, of what is sent out as they. We need look for no change by shirking our own necessary contribution. The enterprising amateur who designs and builds his own hive and demonstrates its utility with the co-operation of the Journal shows the way. Not all are called upon to go to so much trouble to carry the matter to a conclusion, but some effort on the part of the general body of bee-keepers is necessary. General support, with a definite proposition only, will justify us in approaching makers as a body of business men. The combined effort of the Central Association, County Associations, and the continued publicity of the Journal is needed. I have no doubt, however, that the views of manufacturers at this stage would be very welcome if they care to put them forward.

Traversing a few other points brought up by the various contributors recently, I would say the Langstrothian construction, however suitable or unsuitable for American apiculture, is unlikely ever to supplant our own W.B.C. hive. Our 10-frame inner chambers are indeed heavy enough for comfort when full of bees and brood, and especially honey, when it comes to lifting and transferring. Certainly no lady bee-keeper, or many men, will be anxious to increase the burden. To work larger frames would mean frame manipulation instead of present chamber manipulation. That might be nothing in a one or two hive apiary. Mounting up by tens is a different matter. So good a master of American bee-keeping as J. E. Hand, writing on the Langstroth hive so universally used in the United States, has the following to say:—

"This (the economics of honey production) refers to the increase problem, the swarming problem, and the wintering problem. It is a deplorable fact that the hives of to-day are powerless to solve these important problems without resorting to expensive equipment and excessive labour without due compensation." Also: "Bee-keeping is virtually an all-the-year-round proposition, and a hive that furnishes protection for its colony in summer only is but half a hive at best, and the lesser half; for with the wintering problem unsolved no bee-keeper in the North is complete master of his profession, regardless of his other qualifications."

Again he says: "Ordinary methods of outdoor wintering consist of enclosing hives in winter cases with suitable packing between. Winter cases are idle seven months in the year" (*Gleanings in Bee Culture*).

In these statements Mr. Hand condemns both the single and the double walled Langstroth hives, and so recently as September he is reinforced as an objector by an Ontario bee-keeper on extensive lines, who, in a very convincing article covering details in practical work, in the same Journal, says the 10-frame Langstroth is both too big and too little. The Langstroth proposition, though so universally used in America, is anything but universally satisfying. Yet it is not likely to be altered, and will remain, as every other hive is, and will be—a compromise. For comfort in working, adaptability to a twelve months' climate, manipulation and increasing, for both brood-rearing and surplus, the W.B.C. hive yields on no point to the Langstrothian idea. On most it is superior, distinctly so, for us. Yet it is but a compromise after all, and a very satisfactory one.

Dealing with our own standard frames: a 16-frame hive would be a bulky proposition as a W.B.C. As a single hive, double-walled back and front, it would not be less troublesome or objectionable than any other single size, rather would it be more. For certain localities it may be desirable. The average locality is another matter. Whatever the 16-frame hive can do in its own locality, the 10-frame W.B.C. can do equally well in the average locality. It is the average for which the W.B.C. is designed. Here I have in mind a 6-frame stock of bees put to work in a W.B.C. that put into supers 170 lbs. of

first quality honey, with but one chamber for brood-rearing throughout, and no attempt at swarming. It is very doubtful if the abnormally heavy breeding colonies are of proportionate value in their surplus production.

Increase of brood chamber can be given by half or full depth chambers, overhead or under. Doubtless the extraordinary breeding proclivities of a 16 to 36 frame queen in a specially favourable locality would be very considerably curtailed in the average locality. If they were not, such a queen would never reach my breeding list.

A 15-in. top bar hardly commends itself to the worker who really works his frames. It needs very little in the total construction to provide for the 17-in. A good point about the latter is it compels the construction of a real hand hold for lifting chambers, which would be missed greatly by any operator who had much lifting to do. It is a treat to get a good grip on a full standard chamber just when it is most needed. After all a 15-in. top bar is easily made out of a 17-in. if particular cases need it. Some old hives are made for 15-in. bars only.

Do we really need a brood chamber wide enough to take 10 frames and two division boards, or even only one board? Seeing that a division board is a pretty useless piece in a full chamber, why have it there? A chamber taking a ¼-in. strip at each side of the 10 frames is all that is needed. In a W.B.C. hive of proper dimensions there is ample room to keep the idle division board outside the breeding chamber and between the double walls, to remain there until the season for its use comes round again.

Not all will accept the bottom board ventilator. Experience proves it objectionable, a sure collecter of propolis, dirt, rubbish, wax-moth grubs and eventually an obstruction to the free movement of laden frames of comb and division board. A plain surface, and a wide entrance with efficient slides, provide enough ventilation. More air space can be given by having a 9-in. depth of entrance well. Bees will not build down into it, though the vacant space below frames be an inch deep. My own-made floorboards are built so, since I found ventilators very objectionable. It is never possible to thoroughly clean the latter without removing and renewal. It is a better bottom board that is needed. A composite strain of Caucasian bees bred here are accommodated in deep well hives, and though pure Caucasians are the "darnedest" propolisers, and brace and burr comb builders known, this composite strain, producing the purity of the real Caucasian Black, doesn't fall into what many would think was the obvious—they don't build down. Nor do other races or combinations of races do so. Therefore, I would recommend bee-keepers to go slow regarding the provision of extra ventilation by a faulty method.

I am firmly of the opinion that the W.B.C. hive is easily capable of meeting every difficulty we may ever hope to counter, or need to counter, in a twelve months' bee-keeping proposition in these islands, allowing a point, however, in favour of the heather man's objections, that it is not a hive for the migratory conditions his particular branch calls for. Further, I maintain it can be of such easy and simple construction that 90 per cent. of our practical bee-keepers can readily make it themselves, if they wish, and yet hold pride of place. In this and my previous article already referred to I hope to fully qualify that statement.—M. Atkinson.

(To be continued.)

BEES IN FIGHTS ON LAND AND SEA.

In the actual war zone it would seem incredible that the bee could, in any possible way, receive notice or attract attention! Yet the bee has been in evidence, has, with that wonderful assertiveness all its own, actually helped the Allies.

Early in the present war a handful of Belgians were barricaded on a bee farm. An attack was made by an overwhelming force of Germans. When the end appeared inevitable, the beehives were thrown over the barricades, at a few yards' range, into the mass of Germans. In ten minutes the last German had fled! The situation had been saved by these new allies.

In South Africa the bee has claimed attention. At East London the story is told of the mounted corps, ready for the front, on meeting a swarm of bees in the street, the former swerved perceptibly, broke in disorder from its line of route, and passed hurriedly on the other side.

At the battle of Sadowa, General Moltke relates, in his history of the 1866 campaign, that during the height of the battle a shell burst among some beehives in a position occupied by his men. Sabre or bullet were of no use, the men had great difficulty in defending themselves from the fierce, determined attack made by the bees, which resulted in the Prussians retreating, leaving four dead on the field of battle.—C. H. H.

EXPERT HELP NEEDED.

We shall be pleased to hear of anyone in the neighbourhood of Ticehurst, Sussex, who can give the above.

CORRESPONDENCE.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

RE BRITISH AND GERMAN CORN PRODUCTION PER ACRE.

[9586] May I, in all courtesy, ask Mr. Kettle the name and the publishers of the Year Books he quotes from. I am sure that he, like myself, is anxious for a facing squarely of all facts upon matters vitally of national concern, even if they appear to surprise and discomfit old prepossessions.

On my part, I did not quote from "books," but, as I said, from a Report (Cd. 8305, price 4d.) in pamphlet form, compiled by the Assistant-Secretary of the English Board of Agriculture, at the orders of the then President of the Board, the Earl of Selborne, who was, as President at the time, a member of the Imperial Government. Perhaps as Mr. Kettle, in an unusual accession of tartness asserts, these gentlemen are inferior to himself in the measure of esteem they have for their country, and yet I hesitate to credit such a fault to either him or them.

May I say that the pamphlet in question, on page 7, gives a "Comparison of yield of certain crops in two periods" per acre in both countries:—

YIELD PER ACRE.

	England & Wales		Germany.	
	1885-9	1909-13	1883-7	1909-13
Wheat, bushels ...	29.5	31.2	19.8	31.6
Barley, ,, ...	32.4	32.7	22.7	36.7
Oats, ,, ...	38.8	39.0	25.7	44.6
Potatoes, tons ...	5.9	6.2	3.4	5.4
Meadow hay, tons	26.1	23.1	22.5	33.7

So in default of other facts it would appear that the opinions were correct ones, and flattering to our patriotism which Mr. Kettle and I held when we were young men, but are so no longer, when we are ——; but, there, Mr. Kettle writes so sweetly and so cheerily, that I am sure however long *he* lives he will never grow old.—R. WALTER ESSEX.

STAMPING OUT "ISLE OF WIGHT" DISEASE.

[9587] Your correspondent, Mr. C. B. Pardoe, in his letter 9547, is, no doubt, correct in stating that some people know nothing of the contagion of "Isle of Wight" disease, but I would add, there are many more who do not care to know, who, having lost their own bees, care nothing for neighbours losing theirs through contagion with their carelessly left-about diseased hives—or, should I not say, intentionally-left hives, with the one object of attracting swarms. Failing legislation, this is where our Associations could do some good by having lectures in every district of the county, making a special point after the attractive lantern lecture, of clearly putting before the audience the terrible nature of the "Isle of Wight" disease and the *wickedness* of leaving exposed any combs or hives.

It is too much in these times to expect voluntary work in this respect from local bee-keepers, but with no expenditure on shows, and in some cases no travelling expert to pay, Associations could afford to give good men, say, two guineas a lecture, and to actually flood the whole county with these lectures. The one essential is, that these meetings be well advertised and district secretaries would gladly send an invitation to all bee-keepers, whether members of the Association or not, to attend. The early spring would be the best time. One wonders, also, if advertisements on the style of "Eat Less Bread," worded "Burn all Diseased Combs," or other suitable phrase, continuously in the JOURNAL *and* RECORD, and occasionally in the country papers, would be of use. I feel convinced that Associations could do much more in these directions to stamp out this disease with their limited funds, even if they could get no grant from the county.

I am afraid Mr. Pardoe's suggestion of the bee-keeper touring his own immediate district would be a very limited success. He would be welcomed by the good, well-behaved bee-keeper, but the sinner who needs converting would look on him as an intruder—at least, in most cases. Personally, I should hesitate to visit uninvited for fear of being accused of spreading the disease should it break out.

I am inclined to agree with Mr. J. Pearman in his experience with Bacterol. It is three years since "Isle of Wight" disease first attacked my apiary, which I claim was second to none for cleanliness. I had 15 stocks then, and the disease, starting its work in the late autumn, left me with four in the spring. With the aid of Bacterol and a most thorough burning and cleaning, I increased these to eight strong, healthy stocks. Yet, al-

though I used Bacterol in the food, disease again broke out in the autumn, and reduced my stocks to four.

This year has been practically a repetition—apparently strong, healthy stocks all summer, but with no increase by swarming—and already two of the four have gone under. With me the very strongest stocks go first; I had one three weeks ago so crowded as to require two supers over the brood chamber, and yet they were all dead in a fortnight, despite feeding and spraying with Bacterol. The fact of the strongest taking the disease first and always at the back end of the year, when nectar is scarce, suggests that it is brought home by the best foragers robbing neighbouring hives.

One curious circumstance is, that during these past three seasons of depleted stocks there has been far away the best yield of honey per hive than ever before in my twenty years' experience.

There is one small member of my family in particular who will miss the bees, for almost every day of her life she has had honey for breakfast. At 2½ years of age she asked one morning, "Daddy, when your bees gather this honey for me do they take the jar round with them?" —F. Hatton, Warrington.

SWARM CONTROL.

[9588] Have been much interested in this correspondence, also in Standardisation of Hives *re* Control of Swarming. The 10-frame hive and a 10-frame super added beneath brood-nest as an annexe for brood, would be quite sufficient for our British blacks, but would be totally inadequate for Italians, Carniolans, Dutch, or any of the foreign races of bees, most of which are far more prolific than our native blacks, and a brood-nest of 20—or even 30—standard frames is not too much for a real first class queen. Of course, doing as Mr. R. B. Manley does, *i.e.*, put excluder on over bottom chamber near the finish of the honey flow, in order to reduce size of brood-nest, and also that the honey may be extracted later. Mr. Simmins in his book mentions an American bee-keeper who had 60 standard frames on one hive and no excluder, and says there was brood in 32 combs at one time. The result was a harvest of over 500 lbs. of surplus, while the same colony, in an eight-frame hive with a queen excluder used, would not have produced more than 100 lbs. of surplus. I was much interested in Mr. Manley's article, especially the part where he says he uses the 16 by 10 inch brood chambers at bottom, with 10-frame standard chambers added as required, but I was much puzzled to see how he uses a 12-frame 16 by 10 chamber at bottom, and 10-frame standard chambers added. I would like to ask Mr. Manley to please describe his hive, as, no doubt, it will interest hundreds of others as well as me. Is it on the W.B.C. principle, *i.e.*, inner bodies or cases and outer cases, and do his frames run at right angles to, or parallel with, entrance. I am greatly struck on W.B.C. hives, but would much like to try these 16 by 10 commercial frames for brood body, with standards added for breeding in and for extracting. Mr. Simmin's conqueror hives are made thus, and I hope to try them (conqueror hives) when war is finished and hives are cheaper. Would Mr. Manley please say where these commercial 16 by 10 frames and foundation for same are to be bought, as I see none in catalogues. If Mr. Manley's hives are different to the W.B.C.—and I think they must be—I may try a few of them, in addition to W.B.C.'s. *Re* latter, I think it is high time they were standardised. I have here three makes of W.B.C. hives and no part of one will fit on the other, either inner cases or outer cases. I think the ideas of your correspondents for W.B.C. hives to take frames both ways (either parallel or at right angles to entrance) very good, and I hope they will be made thus in future. I also think I would prefer both inner cases and outer cases to be exactly square, not longer one way than the other. I cannot close without saying how much we all enjoy "A Dorset Yarn" each week, and hope Mr. J. J. Kettle may long be spared to work his bee and fruit farm and write such entertaining articles.—Charles Cubley.

STANDARDISATION OF HIVES.

[9589] I have read the correspondence about hive standardisation with interest, and have given it much consideration. I am afraid that it will prove a large problem and difficult to knock into shape. There has not been a line to prove that the writers ever took into consideration the various needs of the different districts, or realise that what is suitable for the South is unsuitable for the North. I have lived in the London district, and have experienced the difference of weather. A hive made of 7-16-in. wood, even a W.B.C. hive, would not be suitable to stand the North Sea gales of Durham and Northumberland. My hives are ⅝-in. thick and 20½ in. square outside, with 6 in. deep stands to take swarm frames, and have deep, heavy roofs, yet I had to go out early in the recent gale to put slabs of stone on the roofs to keep all secure. I am afraid that each district will have to tackle the job and work out their own salvation. Probably there may in time be a national English and Scotch standard. Some progress would perhaps be made if Kent, with its large increase of

membership, would tackle the W.B.C. hive, and fix the sizes of those types. They could temporarily name them "Kent Standard," as being most suitable for that part of the country. If the "Kent Standard" proved suitable, it might ultimately become the "English Standard." I would suggest that Scotland does the same (for it is impossible for the South of England to decide what is suitable for the North). In asking them to temporarily name the hives according to their district, this would leave other districts open to evolve a national standard hive, and leaves this privilege of name to a higher authority, which may be the Bee-keepers' Association. I would like comments on this plan. Probably I may make some further suggestions.—F. B., Charlton.

[9590] I see there is some correspondence in the JOURNAL of late regarding hives and standardisation. I would like to give particulars of a hive I have in use. It is single walled, and takes twelve standard frames, but can be made double walled for winter by the addition of a thin case which drops inside body box and takes eight frames. This can be used in summer for nuclei, or hiving swarms, etc. I give a list of sizes of timber, and will take the different parts in order. First, the floorboard: This is made in the form of a box, 3 in. deep, and reverses for summer or winter use. The entrances are permanent, the one for summer being 18 in. long by $\frac{1}{4}$ in. deep; the winter entrance is 4 in. long by $\frac{3}{8}$ in. deep. The back strip on the deep side of floorboard is left loose, and kept in place by a couple of screw eyes. This is handy for feeding purposes or raking out dead bees in winter.

Second, the body box: This is made in the ordinary way, and outside has two square blocks nailed on opposite sides for handles to lift it. If working for extracted honey another of these body boxes will be needed. If for comb honey, the supers will have to be made double walled all round. A loose quilt is placed on the frames, and over this a chaff tray. This consists of a bottomless box, $3\frac{1}{2}$ in. deep, with a square of sacking nailed loosely on one side, and filled with sawdust or fine shavings.

Third, the roof: This is made square, with a flat top, covered with felt or thin galvanised iron to lap over edges about 1 in. all round, and it also has four bits of $\frac{1}{2}$ in. stuff nailed in the corners inside to bed down on to the chaff tray; this keeps all snug.

The stand I recommend for this hive would be three pieces of rough board about 6 in. wide, nailed together to form three sides of a box, and another thin piece nailed on the front for the alighting-board. This should slope to the ground, and reach up to the entrance; or perhaps old fish-boxes would do, and tack a bit of board on front of hive to slope to the ground. When floorboard was reversed this would require to be taken off and tacked on again for the other entrance. A plain floorboard may be used, and winter the bees in the two bodies, as I shall show some future time. Now this hive has been designed by myself, and, after giving it a thorough test, I shall use no other in future. I will give a description of the inner case and methods of wintering in another article, and if anything is not quite clear I shall be pleased to explain to the best of my ability.—H. CALVERT.

LIST OF SIZES.

No. of Pieces.				
	FLOORBOARD.			
	Ins.	Ins.	Ins.	
2	17½ by	3½ by	1	Side pieces.
2	20 ,,	9¼ ,,	½	Floorboard proper nailed on.
2	18½ ,,	1 ,,	¼	Top strips to raise body to make ½ in. entrance for summer.
1	18 ,,	1¼ ,,	½	
2	20 ,,	3 ,,	½	Front and back pieces, one to be loose, 4 in. by ⅜ in. entrance to be cut in the other.
	BODY BOX.			
	Ins.	Ins.	Ins.	
2	20 ,,	9 ,,	⅝	Outside frame.
2	17⅛ ,,	9 ,,	1	
2	18 ,,	8½ ,,	½	1 inside lining to make 14½ in. width.
4	18 ,,	⅜ ,,	⅝	
2	5 ,,	2½ ,,	1	Handles for lifting bodies.
	TOP TRAY FOR PACKING.			
	Ins.	Ins.	Ins.	
2	19¾ ,,	3½ ,,	¼	Sides nailed together, covered one side with sacking, nailed loosely.
2	17 ,,	3½ ,,	½	
	ROOF.			
	Ins.	Ins.	Ins.	
2	21½ ,,	5 ,,	⅝	Outside frame.
2	19½ ,,	5 ,,	⅝	
1	21½ ,,	10 ,,	½	Top.
4	1¼ ,,	1½ ,,	½	Nailed in four corners inside.

TROUBLE WITH WAX EXTRACTING.

[9591] A friend and I have just been pressing heather honey from standard frame combs (diseased). We found that it had become thick, and in some parts was in a more or less granulated condition.

However, we pressed as much out as we could, and then from the comb that was left after pressing we determined to make wax. We carried this out in the ordinary way, placing it in a steamer with small holes at bottom over pan partly filled with water and the whole placed on the fire, but when all was melted and collected on the water, we found that the wax would not solidify.

My friend, who is an experienced bee-keeper, and who has also tried before to

make wax and failed, is utterly at a loss to know the cause of the failure of the wax to become solid. He asked another friend, who, he said, made beautiful wax, how he did it, but after following out his method the wax has failed to solidify.

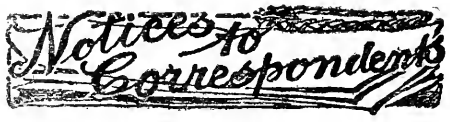
As a novice in bee-keeping, I am very much interested in the failure, so I determined to write to you to ask if you will kindly insert some instructions as to wax-making in THE BRITISH BEE JOURNAL, in reply to the above.

I think that as the honey was so thick, and as some of it had even granulated, much honey would be left in the comb. This would melt with the heat and run down with the wax and collect on the water. The honey that was thus mixed with the wax would prevent the wax from becoming solid. That is my theory of the cause of the failure. Awaiting yours in THE BRITISH BEE JOURNAL, and thanking you in anticipation.—THOS. KIRKBRIDE.

[Have any other readers had a similar experience to the above? If so, we shall be pleased to hear of it, and the methods adopted to deal with the wax.—EDS.]

LANTERN SLIDES.

[9592] Mr. Kettle, of the Violet Farm at Corfe Mullen, has made for himself a name amongst the readers of the B.B.J. He is a fine example of what we Anglo-Saxons on both sides of the Atlantic love so much—a man who with the least of school advantage diligently pursues through after years his own self-culture. He knows by heart choice passages of literature from Shakespeare, Goldsmith, Keats; loves them as "things of beauty" which to him are "a joy for ever." They ooze from his fingers as he writes. His, too, is that marvel of beauty, the "vision splendid," which the microscope affords of the butterfly's wing. With it all he is a busy man, with his fruit-trees, and flowers and his apiary of sixty hives. Then his socialism leaks out amusingly in a way at which no one can take offence. He can no more help it than a bee can help exuding wax beneath its rings. It speaks well for the liberality of the Editors that they give free scope for such chatty articles. That last, with its sentences from Carlyle and Ruskin was, I think, specially good. But what I am wanting to say is, as Mr. Kettle is inquiring about the loan of bee-slides, that I have a good set of about thirty, which I will willingly lend to him, or to any other "bee-brother" near at hand, for cost of postage, if he wishes to "yarn" about them. Only I would earnestly suggest that two hours is much too long for any set of slides to be before the eye. I know nothing more dreadfully tedious than a long, drawn-out lantern lecture. Better by far run the slides merrily through in a shade over half-an-hour, only detaining one or two for three or four minutes' explanation, and then turn to a fully furnished hive and all the portable apparatus of a small apiary, and show exactly how the various operations are worked. Such an object lesson will teach much more about the craft in an additional three quarters of an hour than any prolonging of the picture-show. I wonder what the cost of a quart of Early Seville long-pod beans, post free, would be? My bees would greatly appreciate the scent of them in the early spring, and others also. —GEO. B. STALLWORTHY.



"BARON" (Blackheath).—The seeds are: No. 1, Laburnam; No. 2, Sycamore, or Plane tree. The Sycamore is the better of the two for bee forage.

E. L. JAMES (Winchester).—(1) You may move the bees any time when they have been confined to the hive for a week, or longer, by cold weather (2) We do not know anyone in or near Winchester from whom you could hire an extractor. Perhaps one of our readers who has one to let out may see this and write.

Special Prepaid Advertisements.

Two Words One Penny, minimum Sixpence.

Will advertisers please read these Rules carefully in order to save trouble, as they will in future be strictly adhered to.

Trade *advertisement of Bees, Honey, Queens, and Bee goods are not permissible at above rate, but will be inserted at* 1d. *per word as* **"Business"** *Announcements, immediately under the Private Advertisements. Advertisements of Hive-manufacturers can only be inserted at a minimum charge of* 3s. *per* ¼*in., or* 6s. *per inch.*

PRIVATE ADVERTISEMENTS are only intended for readers having **Surplus Stock to** *dispose of.* **Driven Bees, Nuclei,** *and* **Queens that are reared or imported for sale,** *are Trade Advertisements, and can only be accepted under trade terms.*

Advertisements must reach us NOT LATER than FIRST POST on TUESDAY MORNING for insertion in the "Journal" the same week.

Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

FOR SALE.—Surplus Bee Books, American and some old English.—Price lists from D. M. MACDONALD, School House, Morinsh, Ballindalloch, N.B. m.22

BEES AND HIVES.—Small Apiary for disposal early in January next, unless previously sold.—"Beverley," 73, Lewin Road, Streatham, S.W.16. n.4

WANTED, about six W.B.C. Hives; must be weatherproof. — LILWALL, Cropthorne, Kingsley Avenue, Kettering. n.9

SPECIAL NOTICE.

It is with great regret we have to inform our readers of a rise in price of THE BRITISH BEE JOURNAL. From January 1 the price will be twopence, instead of one penny. We are one of the very few papers which, up to the present, have made no advance in price, but force of circumstances compel us reluctantly to take this course. Paper is very difficult to obtain, even at its present price, which is 650 per cent. more than pre-war prices. In all other departments our expenses have greatly increased and are continually mounting up at a tremendous pace. Pressure brought to bear upon the masters by the union of compositors has led to continual rises in cost of printing. In one department only during the past few months rises of 25 per cent., 15 per cent., and 12½ per cent. have taken place on numerous preceding ones. In fact, postage stamps are the only things that have not advanced in price. We sincerely trust our readers will stick to "the old reliable," and support us through the crisis, and help to keep "*the only weekly bee paper in the world*" flag flying, until victory over our enemies brings once again normal conditions. We shall at the first possible moment revert to our usual price.

We shall be greatly obliged if those readers whose subscriptions expire during 1918, *will send cash to cover the extra* 1d. *per week, or let us know if we are to adjust the number of Journals sent to those covered by the subscription already received.*

Owing to the Christmas holidays, we shall be obliged to go to press several days earlier than usual with our issue for December 27, therefore advertisements for that issue must reach us by Friday, December 21.

A DORSET YARN.

I have a friend who, like myself, was a head gardener for years. He took a small holding, and assured me only last week that vegetable crops were more remunerative than pure farming, though he has a fine herd of cows, which give him plenty of manure. Growing potatoes, cabbage, carrots, and cauliflowers chiefly, he grows mangels for his cows and oats for his horses, but the quickest and surest income is from his market crops. His sons, like mine, are in the Army, and he works harder than any navvy, yet he is always cheerful and happy; but his holding has not the interest that is to be seen with a mixed farm of fruit and bees. With horses, cows, and pigs to give manure even with these we buy all the manure we can get at a reasonable price; horses are necessary for the working of the land, and distributing the stuff to shops and auction markets, and if it is good there is no difficulty in selling it.

With mixed farming, you must grow vegetable crops, until the bush fruits are remunerative; these give the quickest returns of any crop. Take radishes—if sown out in the open in February or March they are saleable in May; spinach sown at the same time is also ready for market in May; but if you let some of the radishes seed the bees can feed on them—in fact most of the crucifer families are visited by bees. Milan turnips sown in March and April are ready in June, early potatoes planted early March and April are ready in June, and a crop of cos lettuce could follow them, or autumn cabbage and savoys; all these give returns while the fruit trees and gooseberries are growing. The second year the bush fruits will have extended outwards and upwards, so you would have one row less between them. If you have plenty of room it is well to leave a row of brussels sprouts for seed; it is wonderful how the bees visit these when in bloom. A breadth of turnips left for seed is fine food for bees: we plough in fields of turnips as a green manure for corn, and some are sure to come through and flower with the corn, and the bees always take advantage of these. Many of our neighbours do the same, so our bees have plenty of fields to look over. Personally I like the flavour of turnip-flower honey. Where the farmer has sheep over turnips and swedes, you rarely see them flower among the corn, as the sheep eat off the tops of them, and that kills the flowering part.

All who take to fruit farming as well as bees will find a lot of hard work, if you set out your fields in short lines, because you will have so much to do by hand. It is best to let the lines go the longest way of the field. Have your lines 200 to 300 yards long; mark out your fields with a marker at 2 ft. apart, and plant your trees and bushes in the 7th line. Be sure to get the trees in straight lines, as they are there for a long time, and it is more simple for the plough to go through the spaces in after years. We are ploughing up our spaces now and planting with lettuces and cabbage; broad beans are up, but we still plant them between the violet lines to help make shade, as well as being remunerative in summer. Remember that

a horse will do in an hour what a man will do in a day; it is always best to use one horse in these spaces, not two, as you would in open fields, and if once going up and down is not deep enough, go a second time in the same place; but as the trees extend, in four years only plough once in a place, or you will be cutting off the roots of the apples and pears as well as the bush fruits.

Do not be afraid of back-ache, as you will have to do by hand all that the plough does not take by the side of the trees, but the results will pay for the labour spent: the rude health that you get with work in the open air, under the broad canopy of heaven. There is plenty of room to breathe, and your lungs are filled with the purest air; the small ration of bread is supplemented with Doyenne de Comice pears and the choicest apples. We have not to go up and down the streets for a ¼ lb. of butter—we churn our own; none ever was so tasty as what is one's own make. More money may be made at other work, but as a soldier wrote me from the battlefields of Flanders: "Money is not all and all in life, it's real life that counts in the end," and the good you can do in that life will make your sons try to go one better. Then our country must be the better, because we have lived in it.—J. J. KETTLE.

THE BEE GARDEN.

FRUIT TREES AS ORNAMENTALS.

Medlar (*P. germanica syn. mespilus g.*).—The other day, about the hour of noon, I had a vision. There passed before my eyes a lane, little more than a cart-track, leading past a plantation of reddening Bismarck apples to a gate, overhung by a damson tree, giving admittance to an orchard, which would be an object-lesson in how not to grow fruit for market.

No two trees were of the same variety. There were Blenheim, Quarrendon, Hawthornden, Keswick, Codling, Sturmer Pippin apples, Williams (Bon Chrétiens), Jargonelle and Louise Bonne de Jersey pears. A very mixed lot, of all ages and in all stages of decrepitude. There were, too, a Fertility pear, newly planted, and two or three trees erect in death. The living ones were mossgrown, gnarled, unbanded and unpruned. The Blenheim, partly uprooted by an ancient gale, lay like a wounded gladiator supported on his elbow. A few paces beyond, mirroring Willow and Agar, a steeply embanked pond received the surface water from the neighbouring fields.

In the midst of this orchard, symmetrical, proudly apart, a constellation, stood one tree. Its blooms, like single white roses, close-set on beautiful foliage, developed into fruits whose vinous flavour was one of the chief delights of my Christmas dessert.

A task I jealously reserved to myself was the gathering of these Medlars, hanging yellow to brown after all the leaves had fallen. All this was evoked by the sight of an osier flat basket tilted up to display its contents on a stall in Petticoat Lane, and as I paused a moment, halted by souvenir, the stallholder accosted me with an air of superior knowledge, and in the Cockney accent I detest more than that of a Belleville Apache: "Dunno w'at th'y are, nah, do yer?" Only a Châteaubriand could have envied my feelings as I passed on.

Quinces.—In towns and suburbs these various subjects should not be planted in containing hedges or so as to overhang any public road or path. The crabs, especially, by their bright colour, would be irresistible temptations to the small boy. The only crop the owner would gather would be the missiles come to rest beneath and around the trees.

Farther out, especially in neighbourhoods where fruit is largely grown, the risk is less. I have had apples, plums, gages and damsons all overhanging a lane, and have lost little or none save what was rubbed off by passing loads.

When on tramp between Stratford, Evesham, Pershore, Broadway and over the Cotswolds, I have often noticed fruit trees, plums and pears chiefly, overhanging public highways. These do not seem to have suffered any depredations. Perhaps some of the growers over there might have a different tale to tell.

Quinces (*P. cydonia*), too hard and rough for anyone save a Japanese to eat raw; this beautiful golden fruit makes delightful jelly, incomparable marmalade, and as a flavouring for apple pies, for which purpose it is better grated than sliced, it yields an aroma truly exquisite.

In its florescence it is quite as beautiful as the medlar. A moisture lover, it will thrive in damp, undrained places. It is generally grown as a bush, but *avus meus Carolus*, in his orchard in an old Oxfordshire limestone quarry, had a fine standard. There are three kinds in cultivation of which the pear-shaped is the one recommended. The round one is a little earlier, the Portuguese excellent, but an uncertain cropper.—A. F. HARWOOD.

BLURTS FROM A SCRATCHY PEN.

OLD BEE BOOKS.

Some few years ago, at an important general gathering of bee-keepers (I will not mention dates, lest I should label the man), one of the speakers made an immense ass of himself by vaunting that he cared little for old writers on bee-keeping—all that he read were up-to-date writers. He got a well-deserved castigation. He who followed next caustically remarked that there were few so wise, so intelligent, as to be able to throw into the waste-paper basket the accumulated records of the experiences and investigations made by our predecessors, under infinitely great difficulties.

Do let us be just. Could some of those great minds, whose words we treasure, have had at their disposal our modern scientific instruments, what might we have not expected of them! Grand old Huber, for instance. Of a truth, he would not have been able to use them himself, but what man ever had a more capable second self than François Burnens? How impatient must Huber have been of his weakness—a fettered giant—but in his own self how patient! Science has a long litany of saints, who have worked neither for greed nor guerdon, and thy name is high among them.

I am a bookworm. Unblushingly I confess the crime. A bookstall is a magnet, which attracts me irresistibly, even as the magnetic needle to pole, but unfortunately my purchasing powers are controlled by the length of my purse, or my library would grow immensely, for I cannot bear to part with a book. Where is it that I have read of Mahommedans, scrupulous to a fault, who will not tread on any morsel of paper lest, perchance, the name of "Allah" should be written on it? I too fear to sacrifice any of my friends, lest some day I should want the treasure, which is to found in it for the seeking.

Chaucer, in his "Legende of Goode Women," has beautifully worded my ideas. The quotation is rather long, but it cannot be in any way abbreviated, or we should lose one of his gems; therefore I venture to give it:—

"And as for me, though that I konne but lyte
On bokes for me to read. I am delyte,
And to hem yeve I faith and ful credence,
And in my herte have hem in reverence
So hertely that ther is gaine noon
That fro my bokes maketh me to go on:
But yt be seldome on the holyday,
Save certeynly when that the month of May
Is comen and that I hear the foules synge
And that the flowers gynnen for to sprynge,
Farewell my boke and my devocion."—
CHAUCER, "Legende of Goode Women" Prologue.

I give the lie direct to Richard Sheridan in "The Rivals." He says, "A circulating library in a town is an evergreen tree of diabolical knowledge." Rather, as Emerson has it: "It is the good reader that makes the good books."

An almost infallible indication of character is the class of reading which satisfies the reader. There are some who commence, almost as soon as they can read with "penny dreadfuls." We see them loitering on errands, or even in the crowded streets, pulling out a paper-covered, badly-printed, often-folded edition. They seldom get any higher than the "shilling shocker," and such readers interest us very little.

But there are hopes for those who will read carefully, and not hastily. The mind needs time to assimilate its proper food, even as does the stomach for digestion. I care not if the subject be science, religion, history, or politics; it is seldom the reader can grasp at a glance the full meaning of the writer. The art of writing books is the art of conveying thoughts, and reasoning, from one mind to many, and the recording and conservancy of those thoughts and reasonings for those who may come after us. Every writer has his own peculiar way of expressing himself—his "style," it may be called, which each reader must accustom himself to before he can receive the full transmission, and for this a second reading is often necessary.

But why need I belabour this point? It is so obvious, but it leads us up to the purpose for which I proposed to write a few "Blurts." I am afraid my opening has been so long that they must be deferred until our Editors can give me some further space in their columns. I have thought often that in some of our very old writers on bees and bee-keeping we may find subjects interesting because of their antiquity. We can scarcely expect them to be practical, we have advanced so much on their knowledge.—J. SMALLWOOD.

STANDARDISATION OF HIVES.

(*Continued from page* 384.)

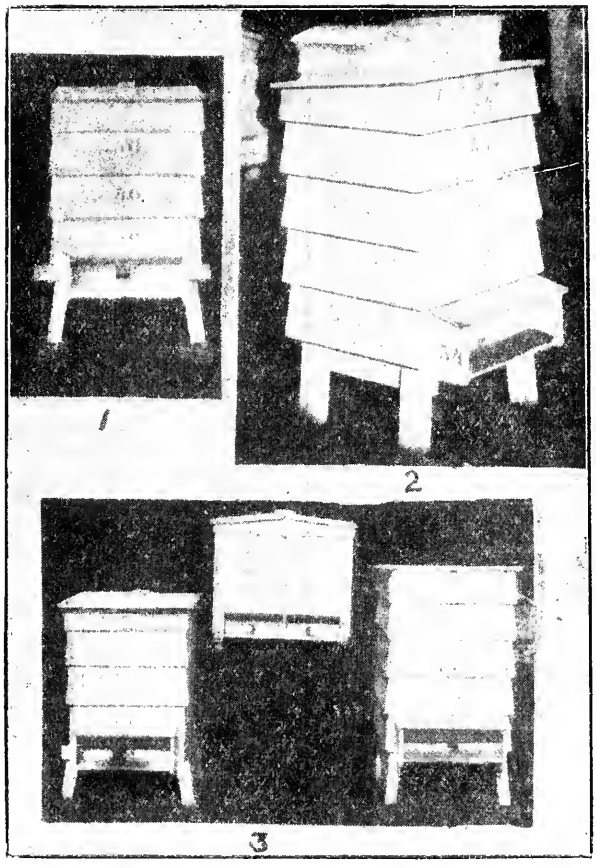
For roof coverings the painted calico or canvas top will outlast any felting fabric ever invented. Most feltings are but paper. Some think it a messy, troublesome, and therefore objectionable business to fit calico covers properly. Not half so messy and troublesome in the end as feltings, which draw away from the

nail-heads, crack and split, or disintegrate when weather-dried, and in due time will be aeroplaning all over the apiary when a respectable wind comes along. Calico stands an easy first.

The illustrations accompanying this article refer to the plinthless W.B.C. described on page 294 and succeeding issue page 304, *B.B.J.*

No. 1 represents the usual W.B.C. outer detail of deep chamber, two lifts and roof. The lower chamber is of 10-in. material, and overlaps the floorboard 1 in. Lifts are 7-in. boards and overlap ½-in. Combined porch and alighting board is detachable. This hive is built to the 20-in. square dimension. A 9-in. timber could be used equally well without sacrificing inner tiering height. The 1 in. overlap of a 9-in. board is equalised by the extra gained from the 7-in. board's ½-in. overlap. Floorboard is 1 in. thick beyond the 9-in. depth of entrance well.

Difficulty in the timber supply having arisen, illustration No. 2 shows how 7-in. boards have been used for all outer chambers for later construction. Five pieces are here shown against four in No. 1 but this hive has equal capacity with No. 1 if one lift is removed, the canvas-covered roof being a little deeper. As it stands, however, it will serve also to illustrate the adaptability of the W.B.C. 10-frame hive for swarm prevention by chamber manipulation, the best method of all. The introduction of more prolific bees into England in recent years calls for some attention when purchasing or making hives for them. The usual three-chamber hive is not enough, and at least one more lift and inner chamber should always be provided for each hive. This will also give the apiarist the needed spare lifts for extra good surplus seasons. Without them the working plant is on the "short" side, and it is well to recognise that large hives are the best on the tiering principle, rather than by horizontal expansion.



MR. M. ATKINSON'S HIVES.

The total inner depth of hive (illustration No. 2) is 28⅛ in. floor to roof at rear. Whether two 9-in. chambers or one 9-in. and one 6-in. are used for brood in the breeding season it affords ample means for any possible swarm control the apiarist can accomplish. Beyond that, determined bees would swarm in this, or any other, hive. But he has herein the maximum control. Likewise, in the matter of surplus room in advance, and full ripening of extracted honey, it is a great convenience, and a time and labour saver in busy periods, when it is also best to keep the busy workers still busy. Combinations of inner chambers can be accomplished as follows, each one giving a tiered height of 27 in. allowing 1⅛ in. for top quilts on any of them :—

3 9-in. standards, 1 9-in. standard and 3 shallows.

2 9-in. ditto and 2 sec. racks, 1 9-in. ditto and 4 sec. racks.

Whether the apiarist keeps British Blacks, advisedly of a fine strain, or foreign bees of pronounced fertility, as is usually the case, this hive represents the minimum capacity with which he should be satisfied. It will turn the trials of bee-keeping in busy times into a positive pleasure. And at what price? A shilling or two for the extra lift and super, if he makes his own; a little more if he buys! This hive is also built to a 20 by 20 in. standard, and all chambers are interchangeable with illustration No. 1.

In illustration No. 3 both true perpendicular corners and bevel corners are shown in the one hive on the left. The outer brood chamber is the ordinary construction with plinths, but at this stage revolt against the plinth stepped in, and bevel construction completed the work and has been continued on all new building since. This illustration gives a more direct frontal view of the hive in No. 2.

In regard to the manufacture of these hives as a commercial proposition, it would simplify the matter if only 7-in. material were used throughout for outer chambers. To make all joints dovetailed the adoption of a 20-in. square standard would require only one pattern, and every board in the chambers would be cut to it, 20 in. long, dovetailing being cut male one end and female the other. Any board would then join up at any side. Timber of uniform thickness is necessary or the dovetailing would need to be deeper or shallower than for a standard thickness of, say, ⅞-in. The lowest chamber in Nos. 1 and 2 has a quite perpendicular front board to simplify the fitting of the detachable porch. My work being largely specialising in breeding, I make frequent observation of the workers at hive entrances, and this fitting facilitates it, though it has other claims of merit also. But in a commercial standard construction this lower chamber can be built exactly as all others as a concession to uniformity and simplification in manufacture. An entrance could then be made in the floorboard, the splayed front forming a porch, and an alighting board attached to the battens below. Standardisation would enable makers to cut the boards in tens of thousands at a common centre, and distribute them to the various houses in large parcels, a co-operative method which should appeal to them. Have manufacturers an objection to such a proposition? Seven-inch boards, at all events, would mean less loss to begin with than when trying to get 9-in. boards of quite sound material. The dovetailed hive would bring its own clients by its superior construction, and in that way factory-made hives would be ahead of the amateur's production, which at present is not the case.

Now a few more words about outer plinths. In addition to their inherent constructional objection, some bee-keepers will probably find in their purchased W.B.C. hives that the 9-in. outer chambers are formed by an 8-in. board, with a 1-in. strip added to the bottom edge. The joint is covered by the outer plinth, and can only be seen from inside. A distinct evasion of a constructional necessity if sound work is any object, 7-in. material would surely give us better workmanship. Need I sum up the possibilities for ruin here, as soon as the outer plinth has demonstrated itself as an agent of decay and destruction, rather than a protection to the thing it misadorns, even if structurally sound to begin with?

Though the matter under review is primarily standardisation of hives, constructional points in the way of improvement should not be overlooked. And that is not all standardisation covers, with the bee-keeping problem largely in a state of flux, due to the disasters from "Isle of Wight" disease and the introduction of more prolific bees.

Viewing the hives illustrated and described here, the immediate impression of the up-to-date bee-keeper I can anticipate as equivalent to the darkie's "Dat's de tool for me!" (with apologies to "Gleanings"). And I will also echo the remarks, so very appropriately introduced by your correspondent Mr. E. Jacques (p. 296), in the third paragraph of his letter *re* cost, the obtrusively, and often ill-advised, "thrifty person" and the "something-for-nothing" individual who would take all out of Nature's vast resources and put nothing in to sustain and perpetuate them. Thin material! Yes, delightfully thin, so thin, etc.!

In conclusion, to give this hive an appropriate definition, I will call it the "Sheath" W.B.C. hive. To define it as an inner plinth hive is inaccurate. There is not a plinth in its construction, the inner fitting being clearly a constructional necessity, a bearer, in fact. These bearers support all the weight of the outer cases and roof, and can quite easily carry double the burden. They are $1\frac{1}{8}$ in. by $\frac{1}{2}$ in. thick, and are fitted to each side of the chambers, the front side of bottom chamber only excepted. That side being perpendicular and 6 in. in depth rests directly on the floorboard, forms the entrance depth, and takes the bee trap on the inner chamber.—M. Atkinson.

MODERN ANTISEPTICS AND BEE DISEASES.

To the few bee-keepers who are by profession medical practitioners, or pharmacists, or who have a fair knowledge of chemistry and bacteriology, it would be useless to explain what they already know regarding the merits of modern antiseptics and their possibly great value in the prevention and treatment of infectious bee diseases. To the average bee-keeper, on the other hand, such an explanation is most valuable, as it would naturally encourage the spirit of research as well as stimulate those who have been disheartened by many a loss through "Isle of Wight" disease. Many of your readers must therefore appreciate the helpful articles and correspondence that appear in the Journal on this subject, however much is the space which it occupies. Nevertheless, there appears always to be a tendency towards directing attention and confining experimental efforts to one particular antiseptic which might happen to be widely advertised, with the inevitable result that valuable time is not made full use of, and we are left in a state of uncertainty regarding the probable advantages of other modern antiseptics which we have not troubled to use in the apiaries. There could be no excuse for such a neglect when we know perfectly well that on the successful treatment of bee diseases (which is only second in importance to their prevention) everything depends, if a rapid progress in British bee-keeping is to be achieved.

Now, without attempting to depreciate the Flavines, I should like, for the sake of preventing an unfortunate bias and a limitation of experimental energy, to quote for the benefit of the average bee-keeper the following conclusions from an interesting article by Dakin and Dunham on "The Relative Germicidal Efficiency of Antiseptics of the Chlorine Group, and Acriflavine and other Dyes," which appeared in *The British Medical Journal* of November 17, 1917. The writers make the following final observations after recording several experiments:—"The main facts disclosed by the preceding series of experiments are as follows: (*a*) The rapid and complete disinfection brought about by solutions (one volume) of members of the chlorine group of antiseptics of the strength commonly used in the treatment of wounds, when added to heavily infected blood serum—muscle extract mixture (two volumes). (*b*) Under similar circumstances, solutions of acriflavine, proflavine, brilliant green, and malachite green failed to sterilise in six hours mixtures which the chlorine antiseptics sterilised completely in five minutes or less. Browning concludes from his experiments that acriflavine is 800 times more powerful against staphylococci in serum than chloramine-T. A comparison of our Experiment VI., Table II., and Experiment IV., Table IV [N.B.—These experiments are given in the same issue of the *B.M.J.*], shows that a 1:600 solution of chloramine-T can sterilise in six hours an infected blood serum-muscle extract which was not sterilised in six hours by 1:1,000 acriflavine. The difference in results is striking and deserves comment. One source of error in Browning's experiments has already been indicated, namely, the addition of the chlorine antiseptics to the blood serum before adding the organisms. We believe another source of discrepancy is due to the fact that Browning and his associates used extraordinarily few bacteria in their tests, namely, 0.1 c. cm. of a 1:20,000 dilution in saline of a twenty-four-hour peptone water culture. A loopful of this mixture plated on agar yielded 'twenty or more colonies.' It appears to us that the use of such small numbers of organisms is unsuited for the determination of the germicidal value of substances, for, in the first place, such a low concentration of organisms in the secretion of a wound of long standing borders on 'surgical sterility'; hence the experimental conditions are not comparable with those in acute septic wounds. Secondly, if 5 per cent. of the organisms in Browning's tests survived they would have a good chance of being entirely overlooked, and sterility might thus be inferred when viable organisms were actually present. Lastly, the bactericidal properties of the serum medium becomes a significant factor when few organisms are used in the presence of native germicidal substances. Another cause of the marked difference between our own and Browning's results is the fact that he allowed the antiseptics to act for twenty-four to forty-eight hours before testing, whereas in our own experiments subcultures were taken at

frequent intervals, which brought under observation the progress of disinfection. The longer period naturally fosters a favourable judgment of the slowly acting dyes, while shorter periods are adverse to them. We conclude, therefore, that the statements of Browning and his colleagues as to the relative germicidal efficiency of chloramine-T and other antiseptics of the chlorine group compared with brilliant green, malachite green, and acriflavine are incorrect, and that their mode of testing the germicidal action of the substances studied by them leads to results which are radically misleading."

The above lengthy quotation does not in reality show to the independent mind that the flavines are worthless antiseptics, whether absolutely or relatively, especially in the light of the successful experience of Drummond, McNee and others recorded recently in *The Lancet*, but it clearly shows that all these recently introduced antiseptics are still receiving their severe tests, and that although their general value has already been recognised, no final judgment at the present stage could possibly be passed on them. It follows, therefore, that if bee-keepers are to reap the full value of these new antiseptics, and to serve the cause of their craft, they should follow the example of the medical profession, and have an open mind towards all, and not confine their experimental efforts to only one of them. These preparations are usually supplied to medical practitioners at a lower price than that charged to the lay public, but it might be possible for members of the British Bee-keepers' Association, if its service be made good use of, to obtain them at such a specially low charge. In any case, however, it is a trivial cost to obtain a small quantity of any of them for experimental purposes. Every bee-keeper who has diseased stocks should therefore at his earliest opportunity test the remedial value of these antiseptics, whose prophylactic use must also be encouraged, inasmuch as "prevention is better than cure," and it is the only way to ultimate success. Both "Proflavine" (which is less toxic and cheaper than "Acriflavine") and "Dichloramine-T" (which is considered more efficacious than "chloramine-T") are manufactured by Messrs. Boots Pure Drug Co., Ltd., of Station Street, Nottingham. "Yadil" is manufactured by Messrs. Clement & Johnson, of 19, Sicilian Avenue, London, W.C.1; and "Kerol" is prepared by Messrs. Quibell Bros., Ltd., of 153, Castlegate, Newark. It is a pity that such noted manufacturing companies have no direct interest in bee-keeping, and have not yet been made to realise the many-sided gain in championing its interests, for it should be observed that their able staff of scientific men, and their usually well-equipped laboratories, might then have done much to secure the protection of our bees, and this not without a substantial reward for their efforts.—A. Z. Abushady, Ealing.

SINGULAR ROBBERY AT HANDSWORTH.

A singular robbery, the first of its kind in Birmingham, is reported from an allotment situate off Crick Lane, Handsworth. A stock of bees, namely four frames, were stolen between the 25th ult. and the 2nd inst. They are the property of Mr. A. Onions, of 131, South Road, and are valued at £2. The police have been informed, and inquiries are being made with a view to the discovery of the thieves.

WEATHER REPORT.

WESTBOURNE, SURREY,
NOVEMBER, 1917.

Rainfall, 1.60in.
Heaviest fall, .36 on 26th.
Rain fell on 14 days.
Below average, 1.55in.
Sunshine, 37 hrs.
Brightest day, 25th, 4.8 hrs.
Sunless days, 11.
Below average, 31.1 hrs.
Maximum temperature, 59, on 21st and 22nd.
Minimum temperature, 27, on 26th.
Minimum on grass, 17, on 26th.
Frosty nights, 5.
Mean maximum, 52.6.
Mean minimum, 40.
Mean temperature, 46.3.
Above average, 3.2.
Maximum barometer, 30.605, on 18th.
Minimum barometer, 29.339, on 10th.

L. B. Birkett.

RE DANGEROUS HONEY FLOWERS.

[9070]—Will you kindly inform me if the Mountain Laurel mentioned by Mr. A. F. Harwood (on page 375 in your issue of November 29, 1917) is the American Mountain Laurel, *Kalmia latifolia*, which is grown in Connecticut, United States? Also, quoting "Xenophon" and 10,000 men, surely it was the *Azalea*, which grows in Armenia, Asia Minor, and NOT *Rhododendron ponticum*, from which the bees gathered the honey? I am in-

terested, as I keep bees, and have been planting Kalmias lately.—R. W. HEATHCOTE.

REPLY.—Yes, the Mountain Laurel is *Kalmia latifolia*, common in the mountainous districts of Canada and North America. Dr. Barton, in the American Philosophical *Transactions*, says that in the autumn and winter of 1790, the honey collected near Philadelphia proved fatal to many, in consequence of which a minute inquiry was instituted under the direction of the American Government, and it was ascertained satisfactorily that the fatal honey had been chiefly extracted from the flowers of *Kalmia latifolia*. It is this plant that Mr. Root alludes to, but it is not sufficiently plentiful in this country to affect the honey stored by the bees.

With reference to Xenophon, it is undoubtedly *Azalea pontica*, the name now generally adopted, that is meant, although this has been confounded with *Rhododendron ponticum*, which properly should be *R. flavum*, if the genus *Azalea* is merged into *Rhododendron*, as is done by some. Fée called it *R. ponticum*, but Desfontaines identifies it with *Azalea pontica*, of modern botany. It is very doubtful if rhododendron honey is injurious. We know that that produced from *R. hirsutum* and *R. ferrugineum*, commonly known as "Alpine rose," in the Swiss mountaines identifies it with *Azalea pontica*, of some of the finest flavoured honey we have ever tasted. In either case it is not plentiful enough in this country to affect the honey.

Notices to Correspondents

"CAERHUN" Wales).—*Dead Larvæ Cast Out.*—It is late for combs to contain brood, probably the larvæ are chilled. When packed down for winter the bees should have at least 25lbs. of stores to last till February or March. As near as one can say your bees would have 14 or 15lbs. of stores, which will serve them just into the New Year.

J. WILLIAMS (Shoreham).—*Using Old Combs.*—It would be a very bad plan to use the old combs as suggested. It will be far better to melt them down for wax, and burn the refuse. Place the boxes over frames of foundation towards end of April. Most likely the bees are storing the pollen for use in the early spring. There is no need to paint the hives inside, but you may do so if you like.

Suspected Diseases.

"ANXIOUS" (Sheffield).—"Isle of Wight" disease is developing.

BORN ON A FRIDAY (Oxon).—(1) The bees are workers; (2) death was caused by "Isle of Wight" disease; (3) do not give syrup, if food is needed give them candy.

Special Prepaid Advertisements.

PRIVATE ADVERTISEMENTS.

WELL! WELL!! 80 M.C. letters opened and not one had the missing county, none was even *warm*. Eighteen pitched on Rutland, but that little old county has two *determined* D.B.'s, who threw bombs at Dorset; two D.B.'s from friend Kettle's county pointed fingers at Suffolk; nine named Durham. A Durham D.B. said Cheshire was It. Everybody please try again. Postcards will do. Circulars and sample Flavine as usual.—S. H. SMITH, 30, Maid's Causeway, Cambridge. n.10

WANTED, "Bees and Bee-keeping," Vol. II., by F. R. Cheshire.—Price to G. M. DARRINGTON, Holm Lea, Wenden, Essex. n.11

WANTED, Geared Honey Extractor, good condition, and Simmins' Commercial Conqueror Hives.—W. G. WALES, Castle Hill House, Bodmin. n.12

WANTED, Honey Extractor, in good order.—BRAND, JUNR., South Mains, Hatton, Aberdeenshire. n.13

HONEY, light or medium, in bulk, 28 lb. or 56 lb. tins, wanted; must be good sample; strained ready for bottling.—Lowest price to "Colewood," New Road, Mitcham. n 14

GEARED Extractor Wanted, in good condition. —Particulars to "MASTER," West Hill House, Brookwood. n.3

BUSINESS ADVERTISEMENTS.

COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 6s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

MESSRS. STONE & SON, LTD., Chemists, Exeter, are buyers of English Beeswax, in large or small quantities. Write, stating quantity and price required. a 5

HONEY AND BEESWAX PURCHASED.
Run Honey in bulk. Sections per gross.
HONEY FOR SALE.
Cuban, Californian, English, Irish.
Free tins and cases, carriage paid. Cash with order. Samples, 3d. Prices on application.
A. GORDON ROWE, 28a, Moy Road, Cardiff.

THE WEST OF SCOTLAND AGRICULTURAL COLLEGE,
BLYTHSWOOD SQUARE, GLASGOW.
INSTRUCTION IN BEE-KEEPING.

A COURSE of 10 LECTURES will be delivered in the College by Mr. Joseph Tinsley, Superintendent, Bee-keeping Department, on Wednesday Evenings, at 7, commencing January 9, 1918. The Course will be freely Illustrated by Lantern Slides, and will embrace the following subjects:—"The Management of Bees," "Natural History and Anatomy," "Diseases and their Treatment," "Swarming: Natural and Artificial," "Production of Honey," etc. This Course is open to all interested. Fee for the Course, 5s.—JOHN CUTHBERTSON, Secretary. November, 1917.

BURTT, Gloucester, FOR BEE APPLIANCES.

ILLUSTRATED CATALOGUE FREE ON APPLICATION

SPECIAL NOTICE.

It is with great regret we have to inform our readers of a rise in price of THE BRITISH BEE JOURNAL. From January 1 the price will be twopence, instead of one penny. We are one of the very few papers which, up to the present, have made no advance in price, but force of circumstances compel us reluctantly to take this course. Paper is very difficult to obtain, even at its present price, which is 650 per cent. more than pre-war prices. In all other departments our expenses have greatly increased and are continually mounting up at a tremendous pace. Pressure brought to bear upon the masters by the union of compositors has led to continual rises in cost of printing. In one department only during the past few months rises of 25 per cent., 15 per cent., and 12½ per cent. have taken place on numerous preceding ones. In fact, postage stamps are the only things that have not advanced in price. We sincerely trust our readers will stick to "the old reliable," and support us through the crisis, and help to keep "*the only weekly bee paper in the world*" flag flying, until victory over our enemies brings once again normal conditions. We shall at the first possible moment revert to our usual price.

We shall be greatly obliged if those readers whose subscriptions expire during 1918, *will send cash to cover the extra* 1d. *per week, or let us know if we are to adjust the number of Journals sent to those covered by the subscription already received.*

Owing to the Christmas holidays, we shall be obliged to go to press several days earlier than usual with our issue for December 27, therefore advertisements for that issue must reach us by Friday, December 21.

Will Mr. C. Cubley, who sent letter 9588 in our issue for December 6, kindly send his address. We have a postal packet for him, and we are unable to trace his letter.

Erratum.—A printer's error occurred in our reply *Re* "Dangerous Honey Flowers" on page 396, the fifth line from the bottom being a repetition of the eleventh. It should read "as "Alpine Rose" in the Swiss mountains is eaten with impunity and it is some of the finest flavoured honey we have ever tasted."

A DORSET YARN.

While the horse had an hour's rest in Bournemouth last week I spent the time in the Free Library looking at an American book on bees. After going through some pages of great interest, I saw a whole chapter on the flowers for bees; there were many more than I knew. I have noticed a good number in the places I have worked, but the list in that book of annuals, perennials, forest trees and shrubs that give food for bees was a long one. One of them was the orange, that can only grow in the Southern States, where the frost is never much.

Where I worked as a boy there was an orangery, where a lot were grown in square oak ornamental boxes. These were moved out into the open in the summer, in a long, straight line on the terrace. They always bloomed freely, and the perfume was very strong. Bees of all kinds visited these trees, so did wasps and some beetles; ants were always running over them, so there must be a lot of sweetness in the flowers. They have a very strong scent, though bees are not so much attracted by the scent as by the wealth of nectar in the flower.

The writer of the book spoke highly of Mr. T. W. Cowan's Guide Book, and of one other English writer, whose valuable teaching was of a high order, but said "a great deal was taken from other works, but the writer forgot to state the name of book or author of same."

There were only three books on bees in the Library on that day, so I suppose they were lent out to some aspiring beekeepers. If one wants to succeed in beekeeping, as in anything else, one must become a learner; book teaching, with practical experience, will soon make an expert of the youngest recruit. I think it was Richard Baxter who wrote "No man can do well which he understandeth not well: therefore study for knowledge." The practical guide books give the beginner all that is necessary to do, and handling the bees gives confidence.

The American book showed that the hives should have a certain amount of shade. I have not found that shade is an absolute necessity, but the American summer is much hotter than our own. My eldest son was three years in the States. He says the heat is very intense in New Jersey and New York: but they do the business well over there.

They are out to make money in beekeeping; they may have a longer spell of good weather for the honey flow than we do, but most years we are able to get a good lot of surplus honey. It is how the bees winter, so far as I can see: those that are strong in the New Year will soon

work up the population, but weak ones are a long time before they get strong. A great many of our lot have abundance of stores.

My friend, Squire Tomlinson, was up in the week for some fruit trees, and we had a look at some of them; it is so interesting to have a small piece of glass in the covering of brood chambers, through which one can see the bees without any risk of disturbing them in winter. Some of our lot have a wood covering with a small piece of glass; others have four strips of deal laid across the bars and two pieces of thin oilcloth, with a hole cut in the centre, laid over the whole, with a piece of glass between the two sheets of oilcloth. This enables one to see the bees going over the bars, and one can see that there is plenty of stores. Some cells were not capped over just below the piece of glass. Squire Tomlinson said they were robbing each other. Still, it is good to see them active. If one does not see them at all one has a doubt of their welfare.

These three weeks of fine weather have helped the work on the land; more of it tilled and cropped in one week than we were able to do in five wet ones. Fine weather for getting out the couch grass. Three horses on an American cultivator pull it up to the top, when it can be removed, or burned if dry enough. The results of next year's crop are enhanced wonderfully the more the soil is moved in winter; these stoloniferous grasses get ahead when the land is down to corn, but the extra tillage in getting it out tells on the next crop. We are still planting raspberries and gooseberries; the bees at the Violet Farm shall have plenty of food close home until the clover is plentiful: there will not be so much of it about this next season, as all farmers have had orders by registered letter from the Government to plough up a certain portion more. I have to turn up another eight acres for corn, still, there is sure to be a certain amount of charlock grow with the corn, so the bees will have a good time with that. This wildling is somewhat of a mystery to me. I have seen chalk got out of a well and laid in a large heap, and the first thing to grow on top is this same crucifer: it could not have been in the chalk at a depth of 50 and 60 ft., yet when grass lands are turned over after many years of greensward, this same charlock is the first thing to flower. The seeds have kept their vitality all the years of waiting, so as to carry on the race when the opportunity comes; but with the chalk from so great a depth and charlock to grow on it, is beyond me.

J. J. Kettle.

THE BEE GARDEN.

THE OFFICIAL LISTS.

On November 24 last I received from Messrs. Sutton & Sons, of Reading, a printed sheet containing on one side a "List of flowers sought after by bees, showing their value as honey and pollen producers, prepared by Thomas W. Cowan, Esq., F.G.S., F.R.M.S., and recommended by the Committee of the British Bee-keepers' Association." On the other side is a list of "seeds of flowers sought after by bees, as supplied to members of the Berks Bee-Keepers' Association."

In response to a request I had made when writing for this sheet, Messrs. Sutton had added the following:—

Anchusa, Sutton's Annual Blue.
Cheiranthus Allionii.
Cynoglossum, Sutton's Blue Gem.
Echinops Riteo.

Mr. Cowan's list contains 113 names of flowers; Messrs. Sutton's Berkshire list 58 names. With the four given above, in order that possessors of the sheet may add them thereto, we have a total of 175; but as 42 are common to both lists, the net total comes out at 133 names. Of these, one is a tree, two are hedging plants, one a vegetable, four bottom fruits, five herbs, four climbers, two economic plants, eight shrubs, nine bulbs and ten forage plants. The remainder are flower-garden subjects, either annual, biennial or perennials, with a margin of wild flowers. It is my intention to analyse the lists thus dissected, taking them, for this purpose, as one.

Before doing so, however, I may perhaps be allowed a word of criticism.

Both lists are admirably compiled; that goes without saying. Both represent the results of wide knowledge and evidence great care in preparation.

The fault I have to call attention to is lack of co-ordination in nomenclature. There is not that system in arrangement which is such a time-saver to the student. In one list the common name only appears; in the other the botanical name, with the colloquial one bracketed after, e.g. (1) French honeysuckle. (2) *Hedysarum coronarium* (French honeysuckle). Then in the same list there is a mixture of the two, botanical and common. Is it permissible for me to suggest that in any new issue of this valuable little publication these little imperfections may be got rid of and uniformity introduced?

There is one distinctive feature of Mr. Cowan's list to which I shall merely call attention. This is the mode of representation of the comparative values. Honey value and pollen value are indicated in separate columns. Flowers producing a moderate quantity being represented by the figure 1, those producing a

large quantity by 2 *good*, and those producing a very large quantity by 3 *very good*.

I strongly advise my readers to obtain the sheet, which will be forwarded on application to Messrs. Sutton & Sons. The request may be tacked on to a vegetable seed order, or sent separately.

Its possession will facilitate the following of my notes on the various subjects comprised in it, and will enable anyone to see, almost at a glance, the possibilities in the way of both beauty and utility that a real bee garden may offer to its master.

A. F. Harwood.

TESTING AND WINTERING DYSENTERIC BEES.

At the risk of a little repetition, I should like to suggest to your correspondent [8585] that if he could possibly winter his hives in a *warm* conservatory as advocated in my article on "The Artificial Heating of Hives," which appeared recently in the Journal, he would never regret afterwards taking such a trouble, inasmuch as he could then undertake the disinfecting treatment of his bees by every possible means, whereas by leaving these hives in the open, practically nothing could be done, during the season, in the way of a thorough treatment. Furthermore, a warm atmosphere is a gentle stimulant during the cold weather; and, decidedly, it helps to raise the natural resistance of our bees to the dysenteries.

Lacking such an accommodation, which, in my humble opinion, is very desirable both as a winter warm shed and as a summer cool resort, the only alternative is to fit every hive with a capacious detention chamber in the form of a box, the top of which fitting to the front of the entrance area, and with a hole in its base (front) fitted with perforated zinc to act as a ventilating entrance for the air. Such a simple detention chamber should not cost more than 1s. to 2s. according to the quality of material used—nothing costly being aimed at. For an elaborate detention chamber from the hive makers, 9s. is the usual price, and it is undoubtedly an unjustifiable one, tending to discourage bee-keepers of small means from ordering their hives fitted with such a very useful device, which comes as a great help in stopping robbery, in shifting the position of a hive, whether temporarily or permanently, and whether for a short or for a long distance, and which helps immensely in isolating and confining a diseased stock during treatment. Having placed securely these movable detention chambers in front of the hives containing the infected bees so as to prevent infecting healthy bees belonging to others, as well as to check the infected ones from their fatal outside wandering, the next step is to place in each hive three to four cakes of "medicated" candy (using for medication one of the modern potent and *non-toxic* disinfectants) under the quilts and over strips of wood to give a winter passage. A cardboard box (with a piece of glass fixed from the corners to a hole in its top by means of sealing wax) will afford a means of observation, if placed on the central cake of candy just above the opening in the quilts. It would also be advisable to place in each hive an appreciable quantity of formalin and beta-naphthol tablets, and then to place the dry, warm quilts in position and leave the bees alone for a month, when they might be allowed a flight if both their condition and the weather permit it. By such a procedure one has the clear conscience that he is doing all that lays in his power for the recovery of his bees; and were it possible to warm every hive on cold days (an impossible undertaking with twelve hives placed out of doors) a good chance for the success of this treatment might reasonably be expected.

Your correspondent seems dissatisfied with the effect of "flavine," of which, I am bound to hold a high opinion, though I quite realise that it is a weak antiseptic with organism allied to the Coli group. It would be, therefore, a waste of time and energy to advise him to continue using it at such a critical time in his apiary, and more benefit might be obtained by using, for instance, "Yadil" in its place.

With the existence of several helpless colonies at one time in the same apiary, there is in all probability an infective illness, otherwise I would have drawn the attention of your correspondent to the curious effect of a low temperature on some bees which become unable to fly, and may appear to the naked eye as being quite dead with folded legs and protruding tongue. I have seen some bees apparently not belonging to this world brought out of the hive by their hasty comrades and left on the grass; but when I warmed them gently in front of an electric radiator, I was much surprised to find no less than two-thirds of these "dead" bees gradually returning to life, and, in a few minutes, being quite able to fly back merrily to their hive. Similarly was the case with the occasional crawlers that I met with on cold days. And I am inclined, therefore, to the opinion that crawling, unless excessive, should *not* be taken as a cardinal symptom of malignant dysentery, though it ought to put one on his guard, since it

clearly indicates a lowering in the vitality of the bees; and this, by itself, is a sufficient predisposition to any disease. I trust, therefore, that this illustration will afford another instance of the value of artificial heating of hives in combating bee diseases, whether infective or otherwise. With its adoption, the so-called "bee-paralysis," and similar maladies, may never be known in the future. But here a word of warning is necessary. Since every individual bee is valuable after the cessation of breeding because of its zealous help in carrying on the colony till the coming spring, it will serve no noble purpose to sacrifice unnecessarily even a single bee. Consequently, unless the occupants of the hive are protected by means of a detention chamber from the deleterious effects of a bitterly cold outside atmosphere, especially when it is windy, there are no safeguards to justify the artificial heating of a hive kept in the open, because a freezing temperature is capable of chilling the few scouts that approach or leave the entrance, even for a short distance.

In concluding these remarks, one cannot help being grieved by the amazing negligence of the Board of Agriculture to the advancement of bee-keeping. Through the goodwill of the Board, bee-keepers ought to receive medicated or non-medicated candy at cost price; they ought to be helped in their efforts to stimulate a general interest in bee-keeping in every rural district and in all the suburbs of towns, including London, thus aiding in no small measure to solve the sugar difficulty. The Board should, moreover, recognise the present urgency for introducing a Bill dealing with bee-diseases, and of establishing bee-hospitals, for our valuable insects are obviously more worthy of such an attention than dogs and cats, for whose ailments many charitable sanatorias have been established all over the country. The Board again ought to be the centre for research, for instruction, and for a driving progressive force to the whole craft. With its help, every borough council, and every county council should be awakened from their general hopeless indifference to such an important food-producing profession as bee-keeping. It is not much to expect from them the introduction of theoretical and practical bee-keeping in their agricultural or technical schools, the distribution of stimulating leaflets on the subject of bee-keeping, the helpful inspection of apiaries, and the holding, in conjunction with the local associations, of frequent conferences and exhibitions.

The activities of the "Department of Agriculture and Technical Instruction for Ireland," though limited, afford an object lesson to officials in England. Nothing but apathy, ignorance, and a shameful negligence of a national duty which could be easily and speedily accomplished in the present grave crisis is responsible for the present sad and incredible state of bee-keeping. And it appears that the only way towards salvation lies in a big *combined* pressure in Parliamentary circles by *all* progressive Bee-keepers Associations in this country who clearly see the *immediate* necessity for reform. It is then, and only then, that a *complete* solution of your correspondent's problem, which should perhaps have never arisen, could be easily secured. —A. Z. Abushady, Ealing.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

A NOTE FROM FRANCE.

[9593] I am still out here, and I receive The British Bee Journal every week, and can assure you there is nothing I miss. I would not be without the Journal. I hope this war will soon be over, then I shall be able to be back again with my bees, which I miss terribly; and I only hope they will be able to keep alive until that time. Trusting your are all well. —H. Cheesmur, 73320, 123 Labour Company, B.E.F., France.

BACTEROL AND "ISLE OF WIGHT" DISEASE.

[9594] Not dead yet, Messrs. Editors! nor my bees, which are "not cured" (?) of "Isle of Wight" disease, but this is my last kick this season.

I will not take up your space by answering all my critics separately, but with your kind permission will summarise.

Two of them at least mention one hive as having been treated by me with Bacterol, whereas up to my last letter I had cured thirty-nine stocks, but since then, another client with seven stocks down

asked me to see them, that is seven or eight weeks since, and I have been waiting results before writing again.

I went out and deluged the two worst and left the others to be treated by client, whom I visited last week, and there is not a sign of disease apparent. Of course, it may develop in the spring, but at present they fly freely on fine days and there are no crawlers.

Those who say Bacterol is not a cure are simply speaking from their own experience, and it resolves itself into a case of "Yes it is" and "No it isn't," which does no good. I might argue that the cases quoted in favour of Izal, Apicure, etc., are all frauds: but I should have it to prove.

I have come across three distinct kinds of "Isle of Wight" disease, in which cases the excreta has been reddish brown, green, and nearly black, the latter being the most difficult to overcome, but they are all cured, and anyone saying to the contrary is a "terminological inexactitudinarian," but if they say my own stocks are not cured after having gone through one winter and the summer and are now very strong, with no recurrence, I can only liken them to a "stringed musical instrument struck by a flash of lightning." I have an axe to grind, Messrs. Editors: it is the welfare of my fellow bee-keepers, and when I find "Bacterol" has cured so many, I naturally recommend it.

I do not say it will cure every case, but I have not had one failure, and therefore advise anyone whose bees are attacked to give it a trial, and if not successful, try something else.—W. J. Gibbs.

AN ASSOCIATION FOR MONMOUTHSHIRE?

[9595] A few weeks ago I wrote the British Bee-keepers' Association inquiring if a local association existed in this county (Monmouthshire), but was disappointed to learn there was none.

Do you think an inquiry through your Journal would discover a number of enthusiastic bee-keepers in the county willing to meet and form such an association.

Although but a novice of one season's experience, I would be glad to become a member.—Enthusiast, Cwmbran.

"SUGAR FOR BEES."

[9596] I regret to find that my letter, in your issue of November 15, on above subject, has unintentionally introduced a discordant note in your otherwise harmonious Journal. The remarks were only directed against the Government system of distribution, and however much opinions may differ regarding the method adopted, all bee-keepers will agree that the action of Messrs. Pascall, in arranging to manufacture and distribute the candy without profit to themselves, is deserving of the highest commendation.

In so far as they concluded that one clause was a plaint against their distribution arrangements, then the words were misleading, but in my own limited experience, they were not inaccurate.

With the present system, delays in delivery were unavoidable, and would vary during the September rush, according to distance from source of supply and the modified postal arrangements in outlying districts.

It is satisfactory to note that the majority would obtain supplies in less than a week. To quote the other extreme, however, it may be stated that at least one neighbouring bee-keeper ordered Government candy at beginning of August, not direct, but through a local agent, and obtained his supply at end of September.

In an ideal system, sugar would have been obtainable immediately or even before stocks were found to be in distress. —J. B., Dumbartonshire.

LEGISLATION FOR BEE DISEASES

[9597] I read with a good deal of interest the proceedings of the Kent B.K.A. at their last meeting.

While agreeing, generally, to the principle of standardisation of all things, including that of hives, the most important item, in my opinion, discussed and agreed on was suggested *legislation* for the stamping out of the dreaded "Isle of Wight" disease.

It has answered, I believe, to a very great extent with diseases of animals. If this is so why not try, at least on a limited scale, legislation with diseases of bees, even if it only goes so far as compulsory notification of any known contagious diseases existing in one's apiary.—A. Fry.

ASSOCIATIONS AND THEIR WORK.

[9598] Mr. F. Hatton's letter (9587) in issue of 6th inst., *re* the help of County Associations in stamping out "Isle of Wight" disease, impels me to ask the question, are half these associations alive? I think not. I never see anything regarding the Warwickshire Association, except a few years since, someone asked in the B.B.J. who was the secretary.

This reminds me that some few years ago, I asked this question of a demonstrator, also what was the subscription: his

reply was, "Oh, I can take your subscription." Possibly so, but that alone did not satisfy me, so I let the matter slide, and went on my own way.

This brings me to my point, if these associations had been keen it would not have rested there, they would follow up every inquirer, with a view to securing a member; I know several bee-keepers who would gladly become members of an association if asked, but will not subscribe just to have an expert take the top off a hive and look in about once a year, they do not need this service. Yet these are the very men County Associations want as active members.

If these associations were more alive they would try and enrol every bee-keeper in the district, and so add growth and weight to their "snowball," create more interest, and bring out the enthusiasm which, in many cases, only wants a little encouragement.

Success begets success, and once the cottagers could be shown that they had got a good thing, with a minimum of work, but with careful attention, they, like Oliver Twist, would soon be asking for more.

My idea of bee-keepers is much the same as motor cyclists, they are always ready to help others in trouble. It is a grand spirit, and I hope it will not be killed through abuse.

While I am writing there is another subject, Mr. Editor, I would like to draw attention to, and that is the inadvisability of demonstrating at shows with single wall hives, more particularly local shows, but the one I have in mind was, the R.A. Society's show at Warwick some time back. This procedure led me to purchase four single wall hives, which I have regretted ever since.

Nearly three years since my bees got "Isle of Wight" disease, and I lost my six stocks, which perhaps, so far as hives go, was a good thing, as it helped me to make up my mind to destroy the single wall hives, the other two W.B.C. hives, I scorched inside, and washed with strong disinfectants, but finally knocked them apart and planed the inside all over, and also made one more W.B.C. These were all stocked from a four frame lot bought last May; I have now 77 lbs. of fine run honey and three good, strong stocks, all of which have gone into winter strong and healthy, with plenty of stores.

Since September, in my spare time (which is very limited), I have completed, ready for use, three more W.B.C. hives, and have two more on the way, but again, like Oliver Twist, I am not satisfied, and suppose never shall be.

If country Bee-keepers' Associations and bee-keepers and cottagers would emulate their bees, their reward would be sure, and there would be no need to beg and pray of them to destroy diseased hives, they would do it to try and save the lives of others.—STILL A NOVICE.

WAX TROUBLE.

[9599] Wax not solidifying (9591) is, in my opinion, caused by the excess of honey in the water. All comb should (previous to being put in the wax extractor) be washed in cold water.

The better course to take when breaking up diseased comb is to break up in top of honey ripener, and allow to remain by kitchen stool two or three days, for honey to drain through, with an occasional stir up, as at this time of year honey is very cold. I, unfortunately, had the experience of breaking up combs from eight stocks.—LAMPETT, Glos.

WAX EXTRACTING.

[9600] It may interest Mr. Kirkbride (9591) to know what I did with ten standard combs which had been over another brood chamber. After pressing out 25lb. of honey the combs were put into a pan of water (2½ gallons) being well broken up. They were allowed to soak for eight days, then the liquor was well pressed out of the comb, and it was put into a canvas bag with a large stone, and boiled in water for an hour, then stood outside all night to cool. The next morning I had a fine cake of solid wax, which was a good colour. The liquor, after being strained, was boiled for an hour, spices being added; when nearly cold six sticks of bruised rhubarb were put in to soak; when quite cold it was strained again into the pan and a tablespoonful of yeast added to make it work. This made two gallons of mead, which, I believe, will be all right, having made wines of one sort and another for 40 years.—J. J. PARKER.

REPORT OF LECTURE BY REV. G. B. STALLWORTHY, AT POOLE, DORSET.

[9601] I mentioned some time back the old writers on bees were a fine lot of men; I lift my hat to the old lecturers, for they portray the life of the bee in a remarkably lucid manner. I was able to hear the Rev. G. B. Stallworthy's lecture on bees in Poole. It was divided into three parts (which is a way most parsons have), an epitome of their life, habits and economy, the marvellous power of reproduction of the queen, the wonderful all-round abilities of the little workers, and the boisterous self-importance of the lazy drone

and his ultimate death. All were portrayed as though one could see them as he enumerated them. The second part was his fine slides of the bees very much magnified. Here his masterly, scholarly, and lucid explanation was listened to with wrapt attention by the intelligent audience present. The third part, hives and appliances, with some beautiful, clean, drawn out frames of comb from which the honey had been extracted, and the bees had cleaned off the fragments left. What struck me as the most advanced arrangement was two tiers of sections in a frame with a queen excluder on one side to slip into the brood chamber on the outer side for getting early sections. I had never seen one before. The advantage of same is apparent, if the brood chamber was large enough to add it to the 10 frames already there. It would take the place of two bars, and that seems a lot to take out in early summer, when the bees are working up the population so fast, as the two outer ones would be sure to have some brood on the inner side of each, if the queen was a good layer, and the colony strong. A capital regulating feeder, queen excluders, bars in the flat, racks of sections, candy, and all the paraphernalia of the modern apiary, all clean and new, were also shown. Many of these things other bee-keepers have seen before, but we, who live in the rural districts, and cannot attend the great shows each time, get out of the track of modern appliances (we are too conservative), just get the parts we want, and do not look for improvements which are sure to be found by the leading bee experts.—J. J. Kettle.

THE STANDARDISATION OF HIVES.

[9602] In compliance with requests that I should put into writing the substance of what I said on the standardisation of hives at the last Council meeting of the British Bee-keepers' Association, I have pleasure in doing so, and trust that this important matter, which for several reasons presses for early consideration, will be advanced by criticisms of my suggestion.

Several of those who have written on this subject in your columns have suggested that there should be various types of standard hives on the market, in fact, one writer recently proposed that there should be types 1a, 1b, and 1c, of double walled hives, and 1a, 1b, and 1c of single walled ones. But surely these suggestions would hardly be practicable even if the bee-keeping industry were an important one, whereas it is probably the smallest—though no doubt it is the most remunerative—of the minor industries.

It is all very well for some persons to say that hive makers must fall into line with the demands of bee-keepers, but the latter ought to be reasonable in what they ask the manufacturers to do for them. We all must grant that makers of bee appliances and hives have invariably shown themselves anxious to meet the wishes of bee-keepers.

The suggestion that I venture to put forward for consideration is that the British Bee-keepers' Association should standardise one roof and one floorboard for a double walled hive, and the same for a single walled one, each of the hives to be large enough to take twelve frames.

The latter seems to me to be an important point, since few experienced bee-keepers will agree that a hive which will hold only ten frames is large enough, and we must not forget how important a part the size of the brood-chamber plays in the prevention of swarming. The space for the two extra combs would, in many cases, prove valuable on the approach of the honey-flow, when the bees which are hatching at the rate of two or three thousand daily cause the brood-chamber to become over-crowded, though any who prefer to keep to the ten combs could do so by using a division board. Personally, I always prefer to have a little space behind the combs when manipulating them.

If my suggestion were to be adopted it would not matter how hive makers might arrange the other parts of their hives, as the practical result would be that every roof would fit every hive in the apiary, and every floorboard could be substituted for one from any other hive.—J. B. Lamb.

EFFECT OF OTHER DRUGS ON FLAVINE.

[9603] Mr. Smith says in his circular on the "Flavines" that "The effectiveness of the flavines is neutralised by many of the older antiseptics. The only safe way is to use one drug at a time." In the instructions how to use the flavines in the feeding treatment he tells you to use it with sugar or honey. If you have no honey, and as it is impossible to get sugar, what are you to do, as the candy you buy is medicated with bacterol, and Mr. Smith says flavine must not be used with other drugs? If, indeed, flavine is the certain cure for the "Isle of Wight" disease, the only obvious thing seems to be that Messrs. Pascall medicate the candy with flavine instead of bacterol, because it is known bacterol is not always effective. Or, couldn't Messrs. Pascall make some candy unmedicated, so that flavine may be used with the certainty of its acting?

Seeing F. W.'s statement that he saw pollen going in on November 21, I thought it might be of interest when I say that I saw one bee go in one of my hives about December 1 with pollen.—E. L. J.

Notices to Correspondents

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

"BUNNY" (Eynsford).—*Transferring Bees from Boxes to Frame Hives.*—If you want to use the combs you must first "drive" the bees, then cut the comb out of the boxes, and fit it into the frames, tying three or four pieces of tape tightly round frame and comb from top to bottom, to hold the comb in position until the bees have fixed it. Put the frames and comb into the hive, and run the bees in as you would a swarm. A better plan is to stand the boxes over frames fitted with foundation in a frame hive, and allow the bees to work down. As soon as the bottom combs contain brood, make certain the queen is on them, and place a queen excluder between the box and hive. In about three weeks all the young bees will be out of the cells; the box may then be cleared of bees and removed. The colony of bees will then be on new and straight combs.

R. DOWPE (Galway).—*Swiss Entrances.*—(1) They are very good, but we prefer the plain entrance with two slides. (2) Better leave the entrance so that the bees can fly, but it is a good plan to shade them so that strong sunlight, or its reflection from snow will not tempt bees out in cold weather. (3) We do not think this would be satisfactory, but you might try it on one hive. We prefer your lead tunnels, but would make the outer opening at least 3ins. wide. (4) To keep a race pure the stock would need to be at least two miles, probably further, from any other bees. The drone may fly two miles or more, and the queen will fly some distance from the hive.

D. B. E. (Pem.).—Italians swarm more than natives, but the rate at which they will increase depends on their management.

Suspected Disease.

J. R. (Warwickshire).—The bees appear to be healthy. They will eat the candy before using the stores in the combs. Only an examination will show whether the combs contain enough stores for winter. We cannot say where you can get sections at present. The British Beekeepers' Association are trying to arrange with the Ministry of Food for a supply of sections to be imported for the coming season.

LECTURES AND DEMONSTRATIONS ON BEE-KEEPING.

W. HERROD-HEMPSALL is open to give the above in any part of the country; providing his own lantern, slides, etc., demonstrating tent. **Also private instruction at pupil's own residence.** Terms on application.—W. B. C. Apiary, Old Bedford-road, Luton, Beds.

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PRIVATE ADVERTISEMENTS.

WANTED, "Bees and Bee-keeping," Vol. II., by F. R. Cheshire.—Price to G. M. DARRINGTON, Holm Lea, Wenden, Essex. n.11

THE M.C. was Cumberland. The sprayer has been forwarded to Mr. A. P. Stratford, D.B. 30, 37, Belle Vue Street, York.—S. H. SMITH, 30, Maid's Causeway, Cambridge. n.15

WANTED, Stocks, Bees, Skeps or Frames.—State price to G. WOOD, 52a, Wing Road, Linslade, Leighton-Buzzard. n.16

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40 SECTION CRATES, perfect order, warranted free of any disease, 1s. 8d. each; also Solar wax extractor, complete, 7s. 6d.—CRUICKSHANK, Station Master, Grantown-on-Spey. n.19

WANTED, Second-hand Books on Bee-keeping.—Send title, date, condition, and price to JOHN W. PRICE, Council School, Maidstone. Expect no reply except an order. n.20

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SPECIAL NOTICE.

It is with great regret we have to inform our readers of a rise in price of THE BRITISH BEE JOURNAL. From January 1 the price will be twopence, instead of one penny. We are one of the very few papers which, up to the present, have made no advance in price, but force of circumstances compel us reluctantly to take this course. Paper is very difficult to obtain, even at its present price, which is 650 per cent. more than pre-war prices. In all other departments our expenses have greatly increased and are continually mounting up at a tremendous pace. Pressure brought to bear upon the masters by the union of compositors has led to continual rises in cost of printing. In one department only during the past few months rises of 25 per cent., 15 per cent., and 12½ per cent. have taken place on numerous preceding ones. In fact, postage stamps are the only things that have not advanced in price. We sincerely trust our readers will stick to "the old reliable," and support us through the crisis, and help to keep "*the only weekly bee paper in the world*" flag flying, until victory over our enemies brings once again normal conditions. We shall at the first possible moment revert to our usual price.

We shall be greatly obliged if those readers whose subscriptions expire during 1918, *will send cash to cover the extra* 1d. *per week, or let us know if we are to adjust the number of Journals sent to those covered by the subscription already received.*

We shall be greatly obliged if our readers, when their subscriptions expire, will let us know as soon as possible if they wish to continue to take in the paper. We hope they will all do so, and, if possible, recommend the JOURNAL to other bee-keepers, and thus help to secure new subscribers. Subscriptions should be sent in advance. To prevent disappointment orders should be sent at once, as in the present state of the paper market we cannot afford to print papers to sell as waste, and, in addition to that, we feel that any waste, however small and in whatever direction is at this time unpatriotic. We are, therefore, only printing a very small margin over actual orders, and back numbers will soon be out of print. Failing any order of renewal the paper will be discontinued.

A subscription form will be found on page iii.

A DORSET YARN.

Those of the craft who have gooseberries must see that there are no bullfinches about, or they will clear off the greater part of the flower buds; make the trees distasteful to them by syringing with lime water; the lime will also clean off the coat of green covering that grows on the older wood, so it will do good as well as being a deterrent to the finches. I used to shoot them, but it seemed such a shame to kill these pretty birds, that I have forbidden it now, but syringe with lime instead. I cannot understand why the bullfinches do this. I opened the crop of some I had shot, but could not see aught of gooseberry buds inside; it seems pure wantonness, unless there are small animalculæ in the buds, which are invisible to the naked eye.

It is a bad policy to destroy insectivorous birds that help to keep in check the many butterflies, and other orders of insects, that prey on vegetable life. Many succumbed to the very long, hard winter last season, and the depredations of caterpillars were very marked in the summer. Insectivorous birds are mostly shy, they fly away from the haunts of man, this is why so many white butterflies are found near dwelling houses. Now in the open fields where cabbage is grown for stock, if a white butterfly dares to venture across, the insectivorous birds soon catch it, before it can lay its eggs, and if the eggs are deposited on the leaves, the whitethroats soon find them. As a judge at many summer shows I was able to see that this was so. One can tell which is grown in open fields and which in cottage gardens, as the latter are sure to have perforations made by caterpillars, and those from open fields will be perfect. I remember an instance when a young man—my colleague in judging was old and grey—we gave the first prize to some very fine cabbages, which were far ahead of the others because they had no perforations. As it was a cottagers' exhibition, I remarked they were not grown in a cottage garden; this was afterwards found to be correct. They were put up by a carter, who had a strip of land in one of his employer's fields. My colleague, a most able gardener, had not paid much attention to the habits of insectivorous birds.

I have noticed many of our clever horticulturists who have excelled in both fruit and flower culture, have lost sight of the small things that are by them on every side. One instance of this was at Portnal Park in Surrey. When 11 years old I was set to pull a daisy rake over a large piece of lawn that was covered with the yellow flowers of the mouse eared

hawkweed (*hieracuun pilosella*). The head gardener said:—"I want it done by 5 o'clock, as the colonel is bringing a party down to see the muscat grapes." I told him, "These flowers all close up at 4 o'clock." But he said, "Nonsense, get on with it." Just before five he came up to the house to meet his distinguished visitors; he began to compliment me on my large amount of work (I had not done half of it). I showed him the part done, and said "the others are gone to sleep." "Well, well," he said, "I had never noticed it." That was the beginning of a friendship that ended only with his death. He soon gave me a step up into the glasshouses.

Our school-children are now given lessons in Nature study—the next generation should be a clever lot. They ought always to be taught practical bee-keeping, for I know of nothing that will make them take to Nature study like bees. In the summer one of your correspondents advocated it in THE BRITISH BEE JOURNAL, but it can only be so if the head teacher is an enthusiast, as parents (and rightly so) would object to the risk of their children being stung.

One gets so much pleasure out of life, in being cognisant of the things around one. I know a ploughman who can tell a bird by its flight, and can tell the time by the shadow of the plough's beam between his horses when the sun shines (he was ploughing the field north and south). I said, "But how do you tell when the sun don't shine?" He pointed to a cottage on the hill. "At 12 o'clock my wife comes out in a white overall and the horses sees her if I don't; they keep on looking that way, so I must stop." Still, all this is going away from the subject of bees. "One's life as we grow older is all behind us"; this I have seen quoted somewhere, but memory fails me. I remember a passage read years ago when first I read Milton, which will describe a Nature lover better than my poor dictum:—"He that has light in his own clear breast, May sit in the centre, and enjoy bright day: But he that hides a dark soul and foul thoughts, Benighted walks under the midday sun: Himself in his own dungeon."—J. J. KETTLE.

BEE-KEEPING EXPERIMENTS IN THE KOOTENAYS, B.C., SEASON OF 1917.

A GOOD SYSTEM OF SWARM CONTROL AND PROPER TREATMENT OF SWARMS GREATLY INCREASES THE HONEY CROP.

This is the second season that the method of swarm control, known in America as the Demaree plan, has been tried in the Kootenays. It has secured many adherents, as it has been found that it can be depended on in this territory to reduce swarming to a minimum, and to considerably increase the amount of honey obtained. Briefly, the Demaree system is as follows:—Just before the colony is ready to swarm put all the brood except one frame in a second storey over a queen excluder, leaving the queen below with the one frame of brood, and preferably empty combs, failing which, frames containing full sheets of foundation. Cut out all queen cells in the second storey about the tenth day afterwards. The brood frames above as soon as the brood hatches out will be used by the bees for storing honey. In my small apiary of from six to eight colonies, which is run on experimental lines, several variations of this method have been tried. I have found that when only one frame of brood was left below, the queen would sometimes be neglected by the bees, and subsequently missing, so have come to the conclusion that a safer plan is to leave two frames containing brood. I have also tried putting a set of empty combs (if this is done shallow frames are best) in a second storey, with a wire screen above, and the remainder of the brood in a third storey with an upper entrance. While this plan works very well, as one of the queen cells can be left in the top storey and a young queen subsequently get mated and be laying there, my experience is that less honey is obtained by this method than when the brood is placed in the second storey, and the honey supers placed directly above this, all queen cells being destroyed. I have not had any swarms during the two years these experiments have been tried.

Another system that is somewhat a reversal of the Demaree plan has also been tried with success this season by an experienced bee-keeper in the Kootenays, and seems in some respects to be an improvement on it. It is worked as follows:—About the end of May, or as soon as the bees cover nine or ten combs, find the queen and place her in a second storey of empty combs with two combs of unsealed brood in the centre over a queen excluder. The bees will then build queen cells below, all but one of which must be destroyed about the tenth day afterwards. After the young queen below is mated and laying, the old queen above can be removed. If she is provided with two or three combs of brood and put in a fresh hive this will make a good neucleus. By this system, if it is carefully followed, it is practically impossible for the bees to swarm, the old queen being above the excluder. A powerful colony is built up in readiness for the honey flow, and a young queen is assured to each hive every year. After the old

queen is removed from the second storey queen cells will probably be built there. These must, of course, be hunted up and destroyed about the tenth day.

Some bee-keepers will probably always prefer to let their bees swarm. In this case if much increase is desired, as well as honey, the old plan of hiving the swarm in a new hive on the old stand and dividing the brood combs up into several nuclei, with a queen cell to each, is an excellent mode of procedure and hard to beat. If only moderate increase is desired the following has been found to be a good method. After a swarm issues put it at first in a new hive containing two frames of built-out comb. In a short time the queen can be easily found, as she is sure to be on one of the two combs, when she should be caged. Go through the old hive and cut out all the queen cells but one. Take out two or three of the frames of brood and put them into a new hive on a fresh stand, so as to make a nucleus, to which the old queen can be given. The bees of the swarm can then be returned to the old hive without much fear of any subsequent swarming taking place. By this system a young queen is assured to each hive every year.

THE PRODUCTION OF SECTIONS.

Considerable difficulty has hitherto been experienced in the Kootenays in the production of sections, and experiments have been made this season to try and solve the problem. What is known in the States as the Townsend system was tried, by which both comb and extracted honey is produced in the same super. By this method the sections are so arranged that they are placed in the centre of a shallow super with a shallow extracting frame of built-out comb on each side, the idea being that the latter act as a bait to the bees and bring them up quickly into the super. It was found, however, that this plan was not entirely satisfactory, so it was decided to try alternating shallow extracting frames with each row of sections. This seemed to act like magic, the sections being built out and filled in quick time, and I feel sure if this method is followed the merest tyro at bee-keeping will have no difficulty in the future in producing sections even with the short honey flows that we usually experience. A hanging frame to take four sections has been devised, and the separators hang on each side, so that all are very easy of removal. Super foundation can be used in the shallow extracting frames, and they do not require to be wired.

A PERMANENTLY PACKED HIVE-CASE.

Wintering problems have not been lost sight of, and a simple form of hive-case has been designed, which can be kept permanently packed and therefore always in use. It is so arranged that it can be used for almost any type of single-wall hive-body. With the ordinary ten-frame body therein, there is a 3-in. space all round the four sides, and also underneath the floor. Excelsior, planer shavings, or other suitable packing material permanently fills the 3-in. space below the floor, and as far up as the top of the brood chamber. When packing for winter all that is then necessary is to place sacks or other material over the tops of the frames, and the job is done. If one of the new wire queen excluders is left on underneath the winter packing, this will provide a clear passage-way over the frames all the winter, and this precaution will doubtless save many a colony from being lost. With the packing cases as generally used there is the trouble of packing in the fall and unpacking in the spring, and storage room has to be found for the cases, and also for the packing material, all the remainder of the season. It is surprising how quickly the bees build up here in the spring with an addition of 3 in. of packing round the sides of a single-wall hive, and, on the other hand, it keeps the hive much cooler during the hot weather, and tends to check swarming.—W. J. SHEPPARD, Provincial Apiarist for Kootenays and Boundary, Nelson, B.C.

JOTTINGS.

After nearly four months of divorce from my "Journals," I have renewed acquaintance, with the month of July missing. I have no doubt these will turn up eventually.

Although one would imagine ours to be such a trivial, same sort of literature, even under the conditions of scarcity imposed upon us, one cannot but admire and wonder at the pretty freshness pervading the whole tone of its pages, from the many new hands apparent, to the ever-boiling Mr. Kettle, whose "yarn" gets more naturally beautiful as the season advances, and lays itself open to his critical eye. One may also wonder at the altogether scientific touch, although so easily explained, of Nature articles that appear from time to time.

Covering for Hive Roofs (page 258, 9496, and page 265, 94009)—I think the Editors' suggestion of painted calico best, as it is most easily repaired and procurable, cheaper, and attracts less heat. I think, when once the paint gets hard, there is no smell, and if fixed under the eaves, with small fillets tacked on and properly painted each season, will last as long as the hive.

The Fight for Protection.—Nothing so sordid as to whether this or that article of consumption should come under the grasping arm of the revenue collector or whether

the free intercourse of some articles should favour this class of that, animates our "protective struggles" or causes us the pain and suffering through over-indulgence in these material things called "civilisation." It is not even necessary a single human life should be wasted. Neither is it necessary to plan, procure, or invest in worthless engines of war to mitigate (?) human suffering. Our fight not only attempts to save a unit, but whole colonies and queenships from the attack of that dire, destructive disease.

I suppose, practical outdoor work being over, we shall now be paying a little attention to future plans for success, and finding amusement for winter months. Can we reasonably expect this without some direct assurance that this bee-keeper's bugbear is in the way of settlement? Are we doing all locally to make this an accomplished fact? Recruits, committees, and even lectures on this topic alone are necessary to win the "war." Prejudice, ignorance, and sloth the enemy at the gate, and the powers make no effort to meet us. We must meet the powers.—A. H. Hamshar.

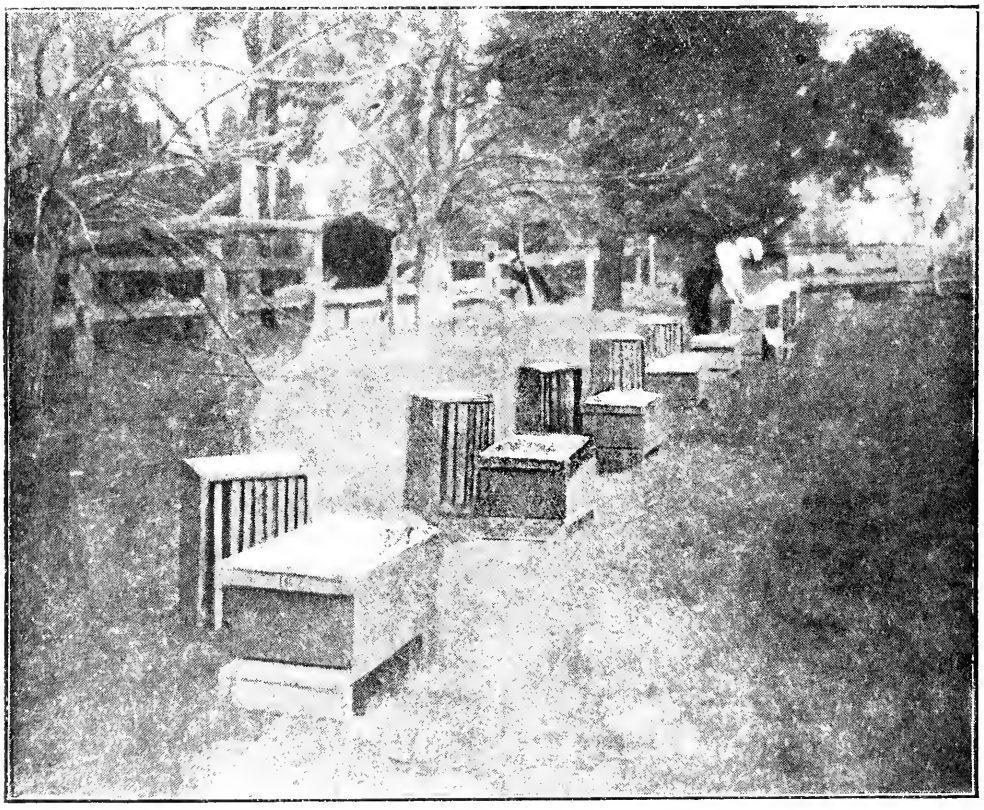
BEE-KEEPING UNDER THE SOUTHERN CROSS.

By Yarlton-Rayment,

Author of "Money in Bees in Australasia."

As the spring advances and the brood-nest is extended, it usually happens that the two outside combs, i.e., those adjoining the sides of the Langstroth hive, are clogged with honey and pollen. Indeed, it is not at all rare to find them white capped owing to the early flow of honey from some indigenous tree.

About this time, September, the weather warms up, and it is safe to remove the clogged combs and substitute empty ones. Should the flow of nectar increase with the growing ardour of the sun, extracting-supers are prepared and wheeled out into the apiary, placing one down at each colony. The operator manipulating the brood-nests lifts the two full combs up into the centre of the super, where they will act as an enticement to work aloft, and, at the same time, remain quite safe until wanted in a month or so.



PUTTING ON SUPERS IN SPRING.

When sufficient combs are sealed to warrant extraction, a gallon iron tank, of a size to accommodate the frames as they hang in the hive, is placed on the tray-pattern barrow and covered with a rubber cloth weighted at the hem with shot. A twig of green wattle (*acacia decurrens*) makes a splendid bee-brush, it is feathery, does not enrage the insects, and when "gormed up" is simply thrown away and a fresh one plucked quicker than a hair-brush could be cleansed. The hive is opened, the combs lifted out of the super and the bees removed with a sudden jerk downwards; the "stickers" are brushed off with the wattle. When the barrow-tank is loaded—it holds 32 Langstroth frames—it is wheeled into the extractor, and a tank of empty combs is taken back to replenish the supers.

Since the two combs lifted up from the lower chamber are allowed to remain in the centre of the super, they are the first to receive the queen's attention, so when an empty brood-comb is inserted between them it is quickly filled with eggs. When this brood is due to emerge from the cells, the three combs, with all adhering bees, are taken and imprisoned in a three-frame nucleus for 24 hours. It is then ready to receive a ripe queen cell. [How the cells are obtained will be related in another issue.] Of course, the queen of the parent colony must not be removed.

REMOVING RIPE COMBS FOR EXTRACTION.

Now let us get back to the extracting. In Australia, it is poor practice to get along without a cappings "melter." We have used several types, having one in each apiary, but we are now depending on the large Bartlet-Miller machine, heated by steam, at the home yard. At all other yards the cappings are sliced off into 60-lb.

honey tins with the top cut out. A portion of another tin makes a lid that is both dust and mouse-proof. At night these full tins are hauled home. Next day they are placed upside down in the hopper of the melter, four at a time, when the contents are quickly reduced and automatically separated. Although not shown in the diagram, the uncapping knives are heated by a small "Primus" kerosene stove. The melter, it will be noticed, is composed of a series of deep triangular tubes.

The extractor, four, six, or eight-frame, is securely fastened down to a solid timber bed on the floor level, the honey being drawn off into a bucket standing in a "well" or depression in the floor. The honey is then tanked until all air bubbles, wax débris, etc., rises to the top. It is then run off into store tins and its source is branded on conspicuously before they are stored away awaiting cooler weather. In fact, we wait until the winter time comes along before we start to push the sale of our product. Why wait? Well, we'll tell you all about it in another issue.—Gippsland, Vic., Australia.

N.B.—Don't forget to observe our patent bee brush of wattle in Fig. 2. The photos were taken in the author's "Stock-yard Road" Apiary. This bee-farm, as well as the "Saw-pit Creek" yard have the range of miles and miles of virgin forest.

QUESTION AND ANSWER.

By Grace Allen.

(To Dr. C. C. Miller, who has answered such questions so often, so patiently, and so wisely.)

THE QUESTION.

"You who are full of years, and wise,
And see with such understanding eyes,
Answer me this: Shall I, who am young,
Work where songs of birds are sung,
Consort with seasons and winds and trees
And murmurous incomprehensible bees,
Or match my youth with the task of the town
In a game where the players go up and down,
Where figures in columns and figures across
Spell fortune and failure and increase and loss?
Shall I answer the call of the counting-room
Or the call of the bees on the clover bloom?
Oh! where lies my profit in years to come,
In ledgers that balance or bees that hum?"

THE ANSWER.

"You who are young, with eyes like flame,
In love with a song, lured by a game,
Longing for wealth—your own true heart
Must tell you at last the better part.
But I who am older say this to you:
Do the thing that you love to do.
Thus work is not drudgery, work is delight,
With zest through the daytime and rest through the night.
Gold, to me, is not truer wealth
Than peace and happiness, love and health,
With wonder and worship and simple ways
And a sense of God through all the days.
But ask your own heart; this is how it looks
To a keeper of bees, not a keeper of books."

From "*Gleanings.*"

To MR. JOHN M. DAVIS.

Who presented me with a young Italian queen.

By Grace Allen.

What did you give, when you gave to me
This beautiful queen, so graciously?
A life I could crush with a careless hand.
Yet no one at all can understand:
A mystery, shaped, through world-old laws,
By the God behind the first great cause:
A life come down through age on age—
Of countless lives the heritage:
A wee, slim creature with wonderful wings—
Such daintily gauzy and delicate things—
Her story a tale for poets to tell,
Woven of words with magical spell,
Romance and Beauty and Pride of Place:
One breathless flight through bewildering space:
One princely mate, who wins—and dies—
Young and strong, in the sun-swept skies:
Within the hive, proud royal ways
Through round on round of loyal days:
And cradled there in her shadowy room,
Lives in love with sun and bloom!
My thanks for the gift you gave to me
Of miracle, marvel, and mystery.

From "*Gleanings.*"

HONEY!

Honey is already being used to sweeten tea and coffee. When the Sugar Order is in force it will doubtless be used still more commonly. Sugar is, indeed, of comparatively recent origin, and honey was once the universal sweetener. Ireland used to be particularly noted for the quality of its honey. It was used to baste roasting meat, as a condiment to salmon, and as a seasoning to all sorts of dishes.

EXTRACT FROM *PUNCH*.

"Much concern has been caused by the announcement that bees are entirely without winter stocks. We have pleasure in recording a gallant but unavailing attempt to remedy the situation on the part of two dear old ladies, who thought the paper said '*socks*'."

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

TOXIC NECTAR PLANTS.

[9604] With reference to Mr. R. W. Heathcote's enquiry *re* my note, p. 375, of November 29 issue, on dangerous nectar plants, and the editorial reply thereto in your December 13 number, I wrote to Mr. Gomer Waterer, whose unique knowledge of the ericaciæ constitutes him a safe authority, and subjoin copy of his reply:—

The Nurseries, Bagshot, Surrey.
December 18, 1917.

DEAR SIR,—In reply to your letter, the geographical distribution of *R. Ponticum* extends from Spain and Portugal eastwards, is most plentiful in Armenia, and gradually dies out eastward of this. *A. Pontica* is a native of the Caucasian region, Asia Minor, etc., and from the point of view of geographical position it would seem somewhat difficult to differentiate, *but from my personal observation I may say I have never seen the working bee on R. Ponticum. What we know as the humble bee seems to be the only one that uses it to any extent; while A. Pontica, when in bloom, is a source of great interest to the working bee.*

I trust this information will be of some use to you.

(Signed) F. GOMER WATERER.

The portion of the letter in italics is, it seems to me, conclusive in support of the contention that *Azalea Pontica* and not, as I had assumed, *Rhododendron Ponticum*, was the plant whereof the nectar was toxic to the Greek mercenaries, and I am trebly obliged to Mr. Heathcote for raising, to you and to Mr. Waterer for correcting, my erroneous presumption. A. F. HARWOOD.

PRICE OF THE JOURNAL.

[9605]—I am very pleased to hear that you have decided to increase the price of the BRITISH BEE JOURNAL, and must congratulate you on having managed to run the paper at the old price for so long.—J. B. LAMB.

THE BAN ON BEE-KEEPERS.

[9606] There is evidently something wrong with the craft!

For some inexplicable reason bee-keepers are looked upon with evident suspicion, if not distrust. The why and wherefore has not yet come to light, but the matter is serious.

It is all on account of that wretched sugar question. For the second season bee-keepers, to obtain supplementary, and in some cases the only, food for their bees, have been obliged to obtain it in the form of candy manufactured according to Government instructions. The price was at once up against the bee-keeper especially the ones of small means, a number objected to dosing healthy bees, and the "Thou shalt not eat this candy" label offended a good many.

As a fruit grower and jam-maker, a person has on application been able to obtain sugar without question, but bee-keepers, and a great many grow their own fruit and make their own jam, are denied the more economical means of feeding their starving bees. Being of course (not above suspicion, mark you) honest in the matter, the jam is made for their own use, and the poor bees have to take their chance, and in the great majority of cases, I am thinking, a poor chance it is, for it is pretty certain that the district described by Mr. Oborn in your issue of 29th ult., is not singular. From various reports coming to hand the prospects are of hundreds of stocks dying of starvation in Hampshire; many are already dead. I have driven skeps this autumn which contained scarcely a trace of honey—candy would have been of no use in such cases.

Enquiries and appeals to the Government were met with the cold information that "the question had received careful consideration, etc., etc., etc.," and "there is no reason why bee-keepers should receive any different consideration or treatment than others"!!! One only wishes that the bee-keeper was treated as others, and the result would probably have been the saving of thousands of stocks throughout the country, which would mean many thousands of pounds more honey for next year.

There is no question as to the excellent way in which the candy is made, but to be treated as children in the distribution of it, to be warned that you will probably

be ill if you eat of it, is beyond the comprehension of most.—F. D. HILLS, Hon. Sec. Hants. and Isle of Wight B.K.A., Alton.

Correspondents desiring an answer in the next issue should send questions to reach this office NOT LATER than the FIRST POST on MONDAY MORNING. Only SPECIALLY URGENT questions will be replied to by post if a STAMPED addressed envelope is enclosed. All questions must be accompanied by the sender's name and address, not necessarily for publication, but as a guarantee of good faith. There is no fee for answering questions.

W. BACK (Oswestry).—*Treating Neglected Stock.*—The bees will probably be breeding in the shallow, as well as the standard, combs in the spring. If you can lift the box of shallow combs off do so. Cut out the comb built in the space left behind the seven standard combs, and put in three frames of foundation. Put the queen on the standard combs with a queen excluder on the top, replace the super, and work in the usual manner. Renew the old standard combs as opportunity offers. Another plan would be to place the whole lot on top of another body box fitted with frames of foundation as soon as the boxes now occupied become crowded. When the queen is laying in the new combs put an excluder over them, and remove the old combs about 21 days afterwards. (2) Yes, if healthy and the price is reasonable. (3) They vary, but usually are very prolific; use two brood boxes. (4) We cannot say if they will survive the treatment, but probably they will.

Suspected Disease.

H. A. TAYLOR (Hants).—"Isle of Wight" disease. If the combs are clean, the honey is quite fit for human consumption.

J. R. (Essex).—The bees are suffering from "Isle of Wight" disease. There is very little you can do for them at this season. Keep them dry and warm, medicate any food given, and keep the hive supplied with disinfectant.

Do not use creosote for the hive; scorch it out or use Izal or Bacterol.

You may use thin foundation, but it is not very satisfactory. At the best it is better than none at all.

"CRANFORD" (Cheshire).—The bees in box A were too dry for a satisfactory diagnosis. Death was probably due to "Isle of Wight" disease. (B) "Isle of Wight" disease.

W. DAVIDSON (Burton).—"Isle of Wight" disease. Bees in skeps are just as likely to be affected as any others.

LECTURES AND DEMONSTRATIONS ON BEE-KEEPING.

W. HERROD-HEMPSALL is open to give the above in any part of the country; providing his own lantern, slides, etc., demonstrating tent. **Also private instruction at pupil's own residence.** Terms on application.—W. B. C. Apiary, Old Bedford-road, Luton, Beds.

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Orders for three or more consecutive insertions in "The Bee Journal" entitle advertisers to one insertion in "The Bee-Keepers' Record" free of charge.

PRIVATE ADVERTISEMENTS.

GEARED Extractor for Sale, Lee's, with lids, perfect condition.—STANCLIFFE, Middleton, Pickering. n.22

FOR SALE ¼ plate Koilos camera, with Goerz Dopp anastigmat *f*/6.5 lens, can be used either for hand or stand work, twelve single dark slides and film pack carrier. The whole packs in stout block leather sling case, 9in. long, 6in. deep, and 2½in. wide; also light brass telescopic tripod, in leather sling case, all in excellent condition, and used by me to take the illustrations in "Helpful Hints" and "Continental Wanderings." The outfit for sale in one lot for £6; reason for selling have bought a Reflex. A splendid opportunity for anyone wanting a good reliable camera. Will send on approval; Deposit.—HERROD, "B.B.J." Office, 23, Bedford-street, Strand, W.C.

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COMFORTABLE APARTMENTS for Brother Bee-keepers visiting Douglas. Terms: Tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day.—HORSLEY'S, Merridale House, top of Castle Drive, Douglas, Isle of Man.

MESSRS. STONE & SON, LTD., Chemists, Exeter, are buyers of English Beeswax, in large or small quantities. Write, stating quantity and price required. a 3

NUCLEI.—Orders now being rapidly booked for three-frame nuclei of pure Italians; guaranteed healthy. A limited number only for early delivery, 7s. 6d. per frame of brood; queens charged extra, according to quality. Send Stamped, addressed envelope for full particulars.—F. M. CLARIDGE, Copford Apiary, Colchester. n.17

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